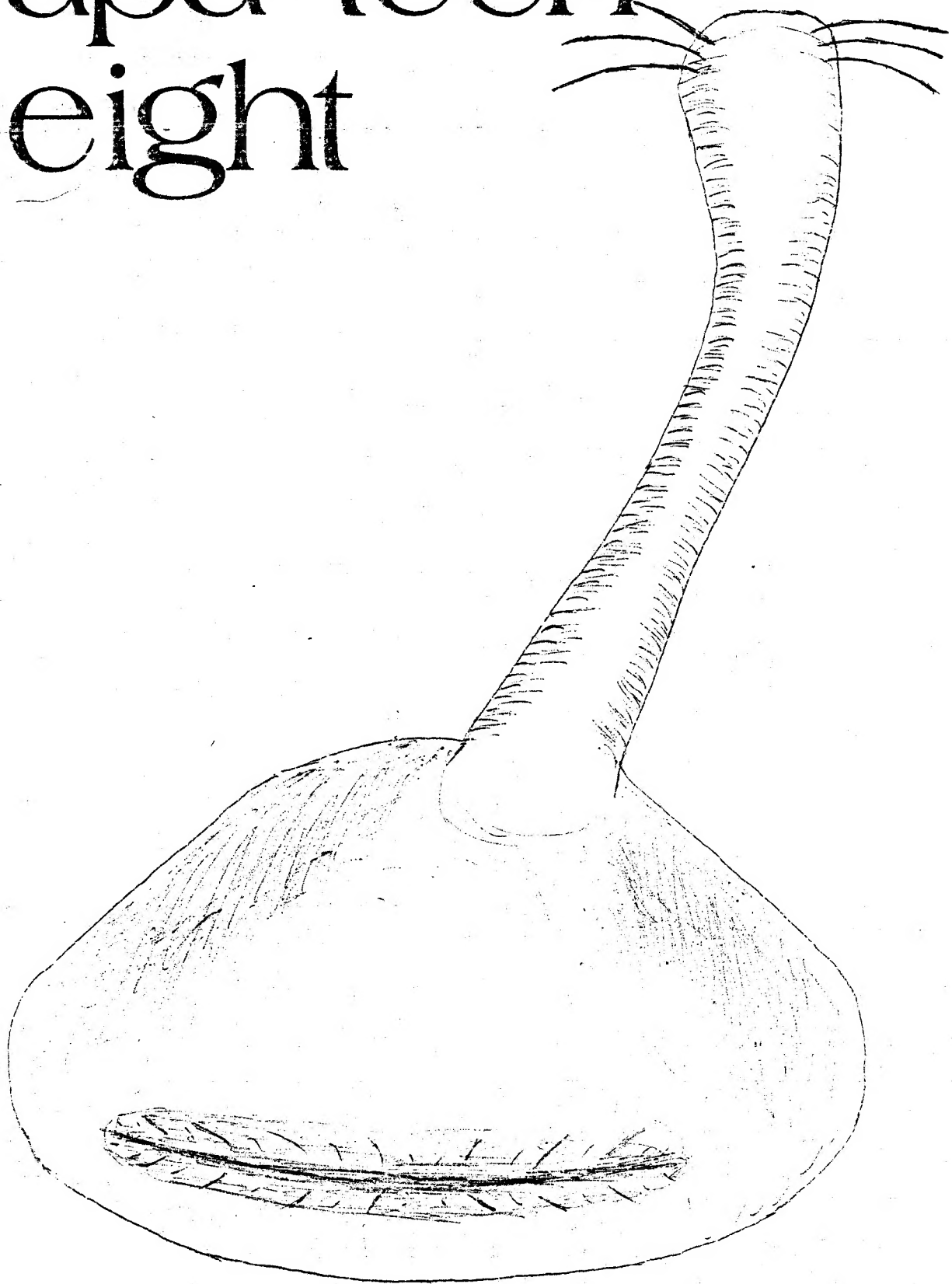


apa-tech eight



Doug Van Dorn

The Amateur Press Association for and by
members of General Technics

.....
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Shalmaneser (Emergency Editor): Tullio Proni, same as above.
.....

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The Quitessential Singularity #7/ Greg Ruffa	10
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The Quitessential Singularity #6/ Greg Ruffa	9
westech #2/ Jamie Hanrahan	2
Documentaition Change Notice/ Gordon Garb	4
TOTAL FOR A-T #7	125

The next deadline is WEDNESDAY, OCTOBER 1

The Copy Count is 35

YOUR ACCOUNT BEFORE POSTAGE IS \$ 2.65 send money!

THOSE WHO HAVE BEEN DROPPED: Kip

REINSTATED: Gordon, Jamie

Those who promised to postmail (who haven't already): MaryLynn,
Valli

Those who owe pages (or will be dropped next ish): Mike B.(2),
Misha (2), Marty (2), Kevin (2), Dick (2), Steve (2),
Dave (2), Renée (2)

New on the Queue: Gretchen Van Dorn

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A QUICK NOTE FROM THE CHAIR

This is getting embarrassing. Are you folks trying to tell me something, getting your postmailings (oh my Ghod, premailings!) out before the regular mailing? Well, this segues nicely into my first topic of discussion: guest GTB's. Especially around August, when we're hustling like mad to get the rayguns ready for WorldCon, it would be nice to simply say, "Mail all your

contributions to X next issue." That way I wouldn't have to split my attention between two things and not do an adequate job on either and you would get your issue on time (well, maybe). And it would give you an idea of what's it's like to put out one of these things (now don't raise your hands too fast now). Also I'd like volunteers for an emergency editor. There are obvious disadvantages to having the emergency editor in the same house (witness this month, for example), even though it's nice to be able to oversee him. Any volunteers (for either guest or emergency editor) should have access to some form of duplicating equipment, whether ditto, mimeo, or xerox machine. In the event that I'm not able to put out an issue it would be nice to know that the apa wasn't floundering in a dark closet somewhere.

Thanks for all your favorable comments on the indicies and graphs in A-T #7. I had fun doing them in an odd bibliographic sort of way. Maybe I'll do them on log-log and polar graph paper next year (no, then they'll accuse me of being from NESFA.)

NOTES: The place that I was getting the great ~~one-sided~~ xerox's from has now raised the price of a copy to \$.07. I'll look for alternatives, but be forewarned.

Doug, we don't have any more copies of #1. Would you take a partial copy (if I could kludge one together)?

Donna, yes, a week's grace has become the new deadline. If you like, you can always put forth a motion to rescind the leniency period.

IT'S TIME TO VOTE (no, no fancy ballots this time) on when the deadline will be and how long the grace period should be. Dick Smith's Proposal states: "...the deadline for contributions ... be the first day of alternate months, and that a ten day grace period be allowed after the first of the month by the GTB for receipt of delayed mail or procrastinators zones. The GTB is directed to announce which conventions she expects to attend near the time of the next deadline, so that members may save postage by delivering their contributions by hand, however, the GTB is NOT authorized to extend the grace period past the tenth day of the month even though she has announced that A-T contributions will be accepted at a convention after the first day of the month." I'll collect votes (yes or no) at worldcon and in your mailings. Please don't make me dig to find your vote.

Steve, You're right, I didn't find out about the character substitutions when I changed print wheels until after I had run it off onto the master. And we have a text processors that handles ~~ALAS/ALS~~ because Alex modified his copy of ALS8. Other nice advantages of our fannish wp is H insert mode (into words like ghod and bheer) and the number of times it will strike a character depending on whether there's a ditto or mimeo master in the printer.

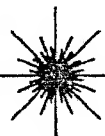
Doug, what happened to the backcover?

That's all for now. Wish me luck in getting all my work done and I'll see most of you at WorldCon. Maybe I'll bring a copy of A-T #7 and we can break a bottle of champagne on it.

BYE BYE

GB

LASERGRAM



NUMBER TWO

A ZINE FOR APA-TECH BY DAVID D. LEVINE

UNTIL AUG. 25:

AFTER AUG. 25:

4210 N. FARWELL AV.
SHOREWOOD, WI 53211
(414) 962-4719

BOX 3480
6515 WYDOWN BLVD.
ST. LOUIS, MO 63105

Fed up with the high cost of Zip-a-tone? Get a \$17,000 Tektronix graphics terminal!

Seriously, this is the high-technology, right-and-left justified, computer-prepared edition of Lasergram. I doubt the next one will be as nice, although I plan to run off enough copies of that nifty letterhead for a while. Whether or not Lasergram #3 will be justified (I mean that in the text-editing sense, of course) will depend on whether Thanksgiving break falls before the next deadline, for I'm sure I won't be able to access such a nice system at school. I'll tell you all about what happened to me in the last two months later, but now it's time for:

MAILING COMMENTS ON APA-TECH 7

COVER: Hip, hip, hooray! One of my favorite films well illustrated.

555 TIMES: Well, this clears up a few things, like why Bentley's zine has such a peculiar title (well, not really peculiar, but it's all Greek to me). But some questions remain: does "Techies have no sex" mean "Techies have no gender" or "Techies get no sex"? The distinction is small but significant.

The hefty staples are appreciated, believe me. Stapler money is on the way with this zine (I hope it's in time...how long is that grace period?) Again, happy birthday and many more.

THE MU-BETAN: Nice cover. What are those dotted lines in the starfield (hyperfield??) Was this computer-generated? Is this supposed to be the cabin of any particular ship? How do I make my voice do this? Where did that last question come from? How can I stop myself from asking so many questions?

Re your comment on 9-digit ZIP codes, I think I would prefer the system used in the USSR, which is a six-digit code written in machine-readable form on the back of the envelope (the envelopes are printed with the dotted outline of a seven-bar display, and the user simply writes out the number, following the dotted line, using a number two pencil, making each mark heavy and dark, being sure to erase fully any mistakes, do not write in this space, ETS use only... on second thought, I'd rather have nine digits.)

You may have been asking for trouble on the first day of Whatcon by wearing that shirt. I think it was during the GT X-Con viewing of ESB that we decided that since it wasn't Solo's fault, and it wasn't Calrissian's fault (by their own admission), it must have been Bentley's fault.

Admit it, Mike, you were the one who put in that chip backwards in the Falcon's hyperdrive! Seriously, Whatcon was a bang-up job for a relaxacon (normally I don't go to relaxacons, but with Niven as GoH I couldn't resist). Even if there were umpteen unicorns in the art show, Higgins' cartoon made up for it. But if you think being on a Concom is bad, you should try not being able to be on a Concom. Due to scheduling problems (namely, the fact that I'm in school until X-Con, so I'm not around for the planning stages of that, and at home during Anchor, so I can't be in on the real action of that) I won't be able to be on one until I'm out of school, unless I stay in St. Louis some summer. I hear that summers there are absurdly hot (over 200 deaths there this summer from the heat wave, more than any other single city), so I'm a bit loath to stay. Even worse, school always starts before Labor Day so I can't go to Worldcons either. Chicago in '82 is my senior year, though, so I think I will be able to afford to miss the first week of school. But enough crying in my beer, my point is that it's a fine experience and not to be passed up no matter what a bitch it seems at the time. Personally, I look at it as a chance to pay back Fandom for being such nice people. I help as I can, gofering and whatnot, but it's just not the same. Ooops, mundane chores call. Back in about 10 hours.

Back now. Where was I? Oh, yes, the Mu-Betan. Re your question on the whereabouts of Tom Lehrer, as far as I know he's still a math prof, although I believe I've heard that he's no longer at Harvard. The last time I heard his "so-called voice" was when he wrote three songs for The Electric Company on the merits of Silent F, Sn, and Ly. (What can you expect from a kiddie show?)

Re Sourceworld, I've had a mild interest in THE SOURCE for some time. Do you have a little basic info you could send me (or all of us)? Those classified ads are tres droll, but what are they doing in a computer mag? The cable TV pirate system ad reminds me that a system called SelecTV, which broadcasts a scrambled signal over the normal airwaves, began recently here. The schematics for the decoder began making the rounds soon after, and within about a week there was not one of the IC which is the heart of the system left in the entire city! This is all second-hand, but I can believe it.

Pe yr CT Dick Smith, don't forget that an orgy must include grapes. Without the grapes it's just group sex. (There's nothing wrong with group sex, but the grapes make the difference.)
SEE ME, FEEL ME: After my last comment this title seems awfully rude.

Interpersonal relationships seem to cause me so many problems I've been avoiding them lately. In any case, I've had no time for anything in the last eight weeks, and will have very little in the near future (explain later). Good luck anyway, and don't let nasty rumors get you down.

YOUNG AND ABROAD IN THE SOLAR SYSTEM: Funny, I thought you were young and a fella in the solar system...

One problem with putting puns in APAs is that you have to wait a whole two months or more to hear the groans. But anyway, I believe this is the first nude (stripped, at least) picture in this apa which appeals to techies (Goshwowoboyboy, thruster casings! Slurp, slobber, drool, drool!) because, as everyone knows, techies have no...excuse me, I've promised myself not to promote the use of that phrase.

INCORRECT THOUGHTS: What a bizarre colophon. I had heard some advance publicity on The Day Time Ended and wondered about it. Now I know that it's really another remake of Attack of the Cheap Special Effects. Another movie opening soon which I have been following since preproduction is Battle Beyond the Stars, a real loser title if I've ever heard one. I give it about a 30% chance of being any good, and a 20% chance of being as bad a rip-off of ESB as Saturn 3 was of Alien. It just opened in this town and I may see it before I finish this zine (does it take the rest of you several days to do one of these things?).

DR. GONZO'S ECLECTIC ETCETERA: Valli, you continue to amaze me. You're getting stranger and stranger, and I've known you for all of three months? And I always thought that when it was late he hour for drinking, driving fast cars, and sex was just getting started. Otherwise this zine is peculiar enough to have clogged my Comment Generator routine... 601...601...601...601...so I suppose I'll just have to move on to...

THE JUPITER EFFECT: No, Kevin, that is not an id card. It is an ego card. If it were an id card it would carry information on your secret inner self. What does ID really stand for, anyway? Identifying Device?

Your info on L. Frank Baum's little known books is appreciated, and ties in nicely with recent discussions on children's books. I never did read A Wrinkle in Time. The fact that you follow with a review of The Patchwork Girl is intriguing, since there was a book called The Patchwork Girl of Oz, wasn't there?

I bought Still Forms On Foxfield on your recommendation, and I was slightly underwhelmed. I found it just a bit simplistic, and the fake obscenities "sponential" and "what in the mind's eye" galling. The Commensals were a good concept although underdeveloped (some of the more alien aliens I've read about lately) but the Earthlings were quite flat. Another thing I was disturbed at was that after about a century the colonists' decriters were still working well, and I thought that life would be a bit rougher with a planetary population of considerably under a thousand. Nevertheless, I found it an intriguing insight into an alien culture (I mean the Quakers).

I read and enjoyed Stellar 5 and picked up the latest Destinies (I'm not sure of the number), read Niven's story of an amusement park visit to a sunken Los Angeles and Pournelle's description of the real Belter skintight space suit, was so intrigued by the latter that I bought Pournelle's High Justice, despite having been warned about Pournelle, and read it. (What a peculiar sentence!) I can now join the chorus of "I didn't like Pournelle because..." Every story in this collection was about how the nice corporations outfit the nasty governments of the world (and Belt). The first two stories were virtually identical, something I would never have expected from a pro author. The technology was very nice but it "lacked plot and character development".

What is this Anti-Martian Society?
Despite your trouble with UPS, I'll probably snip this bundle of joy via them. The Post Office has screwed up my mail and that of friends enough recently that I worry about even the

unimportant things, like phone bills. Last month I recieved the St. Louis SF club newsletter in a plastic bag. It looked as if it had been caught in a sorter or something, and was accompanied by an apologetic note. Isn't there something we can do about this? (try EFT, more about that later).

KWIP: Continuing to be the most unique-looking zine in Known Space. Hexaweeks?

It's amazing the sort of timeslips that can happen in APAs. Not only do you read stuff that was current events months ago, but time is acknowledged to pass during the writing of the zine. For example, articles in mundane zines are sort of tacitly assumed to have been written all at once, but in a fanzine or apazine you can have a sentence like "I went out five minutes ago to reserve the printer on which this will be printed, although by the time you read this it will have been printed already." Does this make any sense? (or rather, will it make any sense when you read it?) (On the other hand, has it made any sense now that you've read it?) (See what I mean?) (Meant?) (Will mean?) 601...601...601...601...

There, I'm all better now.

Re your digital CooCoo: AARGH!

Very nice parody on the proud techie telling the world about his text-processor. I appreciate it even more now that I've found it so hard to resist. I believe this started when Jeff began talking about how Pyros were produced and caught on with text-processing in GT. Now all I have to do is get this typeset instead of merely (sigh) Diabloed. (Diabloed?) B'deah, b'deah, b'deah...sounds like a dragonrider name.

TRANSPORTER TOPICS: Congratulations on joining the fannish legion of VCR owners. Soon, if you are at all typical, you will have a vast library of television SF including everything from Battlestar Galactica to Buck Rogers to...uh...well...reruns of Star Trek?

Comments on your Neanderthal idea: was the Sahara truly a forest until 10,000 years ago, or is that part of your fictional universe? Why do you find it necessary to have a disaster five or six thousand years ago? To explain the Flood? I personally would have had present-day man develop from the neotonous survivors of the Neanderthals directly, without going through another stage of civilization. Or is this necessary for your story (stories)? All in all, though, an interesting story concept. I appreciate someone who can make a coherent universe work. (To define my term, Niven's Known Space is the best coherent universe I know.)

Re yr CT Doug Van Dorn: this is the best argument I've read in the ongoing discussion of "what is appropriate technology for interstellar colonization?" Hip, hip, hooray!

I'd draw a better snit here, but I'd bet my britches somebody else (or several somebodies) will have a better one than I could draw in this collation.

SMITH'S CORONA: If Dick Smith has a corona, he must have a very high glow-in-the-dark index indeed! Would a Northern Lights Cigar have a Corona Corona Corona? What if you stuck one of those cigars into a Corona typewriter? This could go on forever!

One problem with text editors is that it's difficult to do cross-outs, although at least this system has a routine to do underlining. I don't yet know enough about it to write a crossout routine...maybe later.

I like your proposal. Here is one vote for it.

Here's a thought on heating water by the method of Power Dogs: you electrolyze some of the water into hydrogen and oxygen, throw the oxygen away and burn the hydrogen under what's left of the water! Electricity and water are both cheap enough these days that I wonder if this might not be cheaper than natural gas. Probably not.

THIS SPACE FOR RENT: I think the question "are there any humans in the story" may not be needed. The number of stories having no humans in them at all is vanishingly small. Aside from this, I have taken a few minutes to think about this and can't think of any more good questions. Good luck on this project. I once had the idea of using a timeshared system to generate a card catalog for my library, but that fell through: too much work. One wonders about the possibility of connecting this datafile with Jeff Duntmann's

LASERGRAM

Page 3

proposed GT micro network, or some comparable system. Have you considered putting this information on ordinary library cards and encoding the answers to the questions in holes or slots along the edges? Note cards of this type are sold in college bookstores.

Re concentric Dyson spheres: you state that the inner shell would be transparent "for agriculture", but you would have to plant your crops on the inner shell due to the Sun's gravity. Otherwise, the plants would have to grow "down" and would get confused, unless the Sun's gravity is really insignificant. You'd have to have alternate acres of crops and transparency, like a checkerboard, with a mirrored outer shell over the crops.

OVERDUE BILL'S: at least you didn't have to postmail.

I am not one who buys fanzines, but I bought a Collapzine about two years ago for its Foglio "Artist Combats the Threat of Automation" cover. Is it right to say that one "currently" edits a zine which hasn't appeared in two years?

Why do you say it is unfortunate that everything doesn't superconduct at all temperatures? If everything was a superconductor there'd be no such thing as an insulator (except vacuum) and electronics would be impossible, not to mention power tools, and without those two there'd be no GT, so count your blessings!

Now you've got me intrigued. Can't wait until next ish, and I hope you write more next time.

YET ANOTHER DR. GONZO'S ELEPHANTINE ECZEMA: Why do you have two zines again? Why can't you just do one big one?

What is Moopsball?

I also am verily impressed with Gretchen's sewing abilities. I remember seeing her whip up a small stuffed unicorn in amazingly little time in a Whatcon hotel room with nothing but needle and thread! (Listen, filk, I use machines as a good techie should, for almost everything! I said "almost".)

When you say "Hokagon" it sounds like a multi-sided figure of some sort, probably four-dimensional (since Hokas are three-dimensional and it has Hokas for sides).

Alas, I managed to miss you almost completely at X-Con. Hugs anyway.

TRAPPLEPETS sound like the singing family from The Sound of Modems.

Don't worry about blowing up computers. Computers only blow up in that Sci-Fi crap. In real life they just fizzle and die quietly and expensively.

SINGULARITY THREE: Nih! (ssh!)

This robot stuff is interesting. I have now got the beginnings of three (count them, 3) robots in my Stuf box. I will think twice (count them, 2 times) before starting another. But then again, I did finally get a laser, and a robot isn't that much more work...NO, I won't start something I can't finish before school starts (that's what happened to robot #3).

LASERGRAM: oops, I don't have to comment on this one. Please be gentle in your comments. (HHOK)

UNCLE DAVE'S JOURNAL: Do you know about APA:DAVID? It's quarterly, and I would describe it as a "relaxanapa", if there is such a term. It would be nice to have another GT type in there.

Ah, this is the zine I first looked at when I got the APA, for some reason, and so before I forget I'd best list these:

REASONS EVERYONE IN THE EMPIRE CAN WELD:

1) Welding in the FSB universe is as simple as soldering in ours, due to advanced technology.

2) Crummy welds are much more acceptable: look at the condition the Millenium Falcon is in.

3) Perhaps they aren't really welding. They could be:

a) generating sparks (I don't know why they'd need sparks, but I don't know anything about their technology. Perhaps hyperdrives run on sparks?)

b) Charging something with VERY dirty contacts at high voltage.

c) Killing extremely tough parasites. (Small relatives of Mynocks?)

d) Using the high color-temperature light for something on the order of erasing PROMs.

Or, most likely:

e) Just making a nifty-looking special effect.

Although I hate to think what would happen if Chewie got sparks in his fur.

Query: if it took all that to put a hole in a tank, how was the tank fastened together in the first place? This is a serious question, not a joke.

I don't know about the rest of GT but I'm far more impressed with a pilot's license than a ham license: you can't kill somebody by not knowing how to run a ham radio, so the pilot's license indicates a higher degree of responsibility.

This explanation of how to get gold out of scrap is fascinating. I'll probably never use it, but that's what GT is all about: an exchange of technical information!

THE ARMCHAIR SPECULATOR: Creating a morgue sounds rather morbid at first, but on second thought could be quite fulfilling, and probably not dull (a problem with far too many jobs). It sounds like a job which will use your exact skills, which is the best sort of job to have. Good luck.

I don't like your grace period proposal, because I don't foresee being able to make as many cons as I would like to (or am used to doing). This proposal means that those who can't go to cons get a variable grace period. I like Dick Smith's better, it's constant. Interesting suggestion, but it's just not for me.

I can't wait to see your cover. I'll bet it's a bandersnatch! (Actually, about the only things I can think of offhand that are not "bigger than a breadbox but smaller than Jinx" are a General Products #1 null and the Ringworld. We will see.

You have a valid objection to the electRAPA. I could easily see one degenerating into a computer newsletter. The other major objection is cost. Both of these will be obviated when computers are so common that they are not worth talking about (how often these days do you hear someone bragging about their new hand-held calculator? You still do, but not nearly as often as you used to) and cheap. Five years is my guess. I'll probably get a micro around the time I graduate from college, because that's when I'll probably stop being able to access big school systems like this one.

Re your comments on religion, raising children with faith, and atheists as the products of religious homes, it is important to note that Madilyn Murray O'Hair's son is now a good Christian and speaking against his mother. I believe, though, that it is possible to raise kids without using God or Gods as a threat if they (the kids, that is) are instilled with a healthy respect for temporal authority. Of course, this leads to non-independence and a lack of willingness to question authority. It is difficult, and I don't think I'm up to raising kids.

Have fun at Noreascon (Heartfelt sigh).

THE ANSWER IS AUSTAUCH: Yes, cats have a tendency to migrate to the most inconvenient possible spot for you, like the middle of the kitchen traffic pattern or the carriage of the typewriter.

I was planning to work up a few of those Techie Tarot cards for thisn, but scheduling conflicts prevent that. maybe next ish, if the whole plot hasn't fallen through by then and/or somebody else does a complete set in the time it would take me to do one card.

In the last five minutes I have heard ads for ESB glasses from Burger King and ESB posters from Procter & Gamble on the TV in the next room. Commercialism is so sad.

TAKES A LICKIN' AND KEEPS ON TICKIN': Do Trufen not write natters? What then is there to comment on?

One of The Black Hole's faults was a simple sentence near the beginning to the effect that "We've been out here searching for intelligent life and we still haven't found any." This statement was totally unnecessary for the plot and extremely pessimistic. Why couldn't they have

been on a routine exploratory or mapping mission? Other comments on this bit of cinematic excess have already been aired, so Iuff said on that.

Speaking of Disney, I see Watcher in the Woods has been postponed for a while. I wonder what could have been so bad that they wouldn't even release it?

I have seen Frankenstein Conquers the World, and it's every bit as bad as you say it is, but I still have to side with the many sources which claim Godzilla Vs. the Smog Monster as the worst film ever made. Godzilla is every bit as silly, with effects (not even special effects, just ordinary effects) just as bad, and also has a totally absurd ecological subplot and an abysmal song called "Save the Earth".

What does a skeleton holster look like? I would like to see one for my own purposes, and perhaps I could do one or two for you (is Tullio's mother still doing holsters for Isher?) The idea of clear plastic holsters raises the question of scratching the plex: I use fake leather that's fuzzy on the inside to polish off grime and abrasives each time the weapon is holstered. One weapon I have, which is a modified BB gun and all machined brass, I carry in a sort of holster which consists of a strap around the gun above the center of gravity, held with a snap: the snap is in a position such that it can be flicked off with the index finger as the gun is drawn. The problem is that the snap has given way on a few occasions and the gun has survived the fall by virtue of not being made of plex. Plex weapons, on the other hand, are light enough that they can be held to the belt with Velcro. Have you considered this? On the subject of holsters, do you make a shoulder holster for the Model S? Hard leather might be a pain to work, but I don't know a thing about it. If you do any experiments with it please let us know how they turn out. It's interesting that Renee (sorry, accents are a bit beyond this editor) thinks that techies are considered not to be fen because they're too frivolous and Doug Van Dorn thinks techies are considered not to be fen because they're too sercon! Just shows that GT is what you make it.

What is SHORT? Also, what exactly is "FNORD" (you can't see this) FNORD"? This seems to be a bit of a GT tradition, as I've seen it in Pyro, APA-TECH, and nowhere else. Or have I just not been looking hard enough?

SHE WAS BUILT LIKE A SPICK SYNCHROTRON: Are you really being devoted to buffalo handler? Just how out-of-date is Cap'n Al's Pyro, anyway?

Unfortunately, I agree completely with your page 2 from "I realize it's substantially a haunted-house movie" to "except for shining floodlights on the ship's markings". I say unfortunately because this means I haven't got much to add to or argue about what you've said. If you thought Martain Chronicles was flawed, you must be turning over in your darkroom over Brave New World. But enough about that particular piece of bullroar.

Oh, what am I expected to do on the Niven project? Should I just work on my own, or are we all going to get together someday and thrash out some sort of a standard? If you'd like me to nose out of the project because it's getting too crowded I will, but I would like to be in on this (as any good techie would).

You mention the draft. Well, son-of-a-gun, today was my day to register and I worked all day on my zine. I just plum forgot about it! Seriously, this is a major intrusion into our civil liberties. I am considering not registering for this reason and that I am opposed to registration because it is a military act which is supposed to send a "message" (read: threat) to the Russians which can only be met by a counterthreat, leading to a renewed Cold and perhaps Hot War. I have registered as a Conscientious Objector, not because I am a pacifist, but because I believe that war between the US and the USSR would mean, simply, the end of the world as we know it. The Army generals who speak of "acceptable levels of megadeaths" are divorced from the real world. Nevertheless, I will probably register on Friday due to the heavy criminal penalties incurred by not registering. Carter says he does not want a draft, but, without a draft, registration is utterly meaningless. If they want to send me Army literature they already

have my address (I've received enough crap from them to attest to this). If I am called up I will defect to some more civilized country, like Australia (Australia must be civilized, they have Fandom!) The US Government seems to think defection is a good idea for politically oppressed children.

But back to lighter stuff: I will try to remember to bring my Thunderbirds Are Go program in Japanese to Windycon (which is, as far as I know, my next con, alas. Ewing's Berserker is definitely out, barring miracles. More on that later).

Operation Patrole is such an intriguing idea. I hope Chicago gets it, I really really really do. What about ONCE MANY WHITE MEN. BUFFALO COME, KILL ALL?

And that's the end of the mailing comments. A few words on what I've been doing and I'll be off (or at least more off than usual)

First there was X-Con, when I was a gofer, for about the first time. Before this I was either an attendee or Concom. Gofering is different from Concomming: not as fraying of nerves, but still consuming of time. Not as rewarding, either. I finally got to see the Hyperdrift trailer, and late in the con my latest laser died. I discovered to my chagrin that I had stupidly forgotten the dropping resistor! (on my previous laser the resistor was an integral part of the line leading to the tube, but on this one it wasn't even included, and there was no mention in the letter that'd come with it that one would be needed. If Cap'n Al hadn't asked me "What size is your dropping resistor" I'd never have thought of it.) Fortunately, it was the supply that was burned out and not the tube, for I happened to have an extra supply knocking around. Now it is doing acceptably. My next weapon project will probably be rebuilding the first laser in a nicer looking case, probably a rifle type with integral power supply, as that cord does tend to get in the way.

Monday after X-Con I started work at Marquette University's Helfaer Theatre. (Incidentally, Marquette U. has taken over the Holiday Inn where X-Con was held in '78 and '79 to use as dorms.) As those of you who've done theatre work know (are there any in this APA?) this consumes basically all the time you have, and then some. Hours were nine in the morning till ten or eleven at night, with a two or three hour supper break and alternate Mondays off. Needless to say, fanac ground to a halt. That's basically what I've been doing for the past two months, and I may have found out that theatre's not for me. I may be transferring into Architecture this semester. Wish me luck! Otherwise, I have had one thing of techish interest happen to me: my bank went on a system called TYME, which stands for Take Your Money Everywhere. This is an EFT system in which you get a little mag-striped card instead of a passbook and can use it in terminals all over the state. My bank had had a 24-hour teller for about 2 years but they just joined the TYME net this summer. Some stores have TYME terminals so you can make purchases by transferring money directly from your savings or checking account. This is nice enough, but the incident which really made me an EFT (oh, that stands for Electronic Funds Transfer) freak is that when I went to Madison to buy new stereo components, I forgot my checkbook! It would have been a 90-minute drive back to get it, but there was a bank just down the street where I walked in, stuck my card in a slot, punched in my secret ID number, and presto! \$120 in cash! I never had to face a human teller and the whole process took only a few minutes. Unfortunately, there is no such system in St. Louis.

In the next few weeks I only have to work nights, so I'll catch up on my correspondence, costume-making, and things. I have about a week after work ends before I go off to California with my parents to visit relatives, Universal Studios, and Disneyland. Unfortunately, Ewing's Berserker falls during the time I'll be in California. (by the way, what is a QTH?) After I get back from out West I'll be leaving straight away for St. Louis, as classes start Aug. 25.

Flicker Snickers: Several movies of interest open soon or have opened recently, including Battle Beyond the Stars, The Final Countdown, The

Snining, and the Close Encounters re-release. I have seen The Shining, and I really liked it, although I can see why most people would think it only acceptable. I personally am a big fan of Kubrick's unique style, and I feel Newsweek's statement that it is "The first epic horror film" just about hits the nail on the head. I found the little kid annoying, though. Last night I went to see Star Trek (where NOMAD has gone before) at the local old-movie house, and I discovered that once I was prepared for its many shortcomings it's not a bad flick. Decker is still a turkey, the overflight of V'ger still takes too long, and Persis Khambatta still can't act, but the biggest problem was that it was taken much too seriously. This is a film which deserves to rank with the minor classics. It's just unfortunate that it cost as much as it did, and more so that it couldn't live up to the promise of the opening Klingon sequence, which offered action, suspense, and fine music.

And now for something completely different:

POSTMAILING COMMENTS

QUINTESSENTIAL SINGULARITY #6: Nice cover. I see you've been taking sound-effects lessons from Don Martin. Have you considered that the cake could be hauled back into the lander on its cable with a soil sample stuck to its bottom, and then used as a culture medium? (Anything that won't eat birthday cake can't be life as we know it!)

I too have had overlength problems. The preceding (written about two days ago) ran to about 16 pages, so I had to go and edit like mad. If this reduces it to less-than-normal intelligibility, I apologize. I don't know at this point if I'll be able to get it reduced, so I'm trying to keep my page count low. Thus, I'd better get on with the comments.

I regard that comment that I am totally strange as a compliment. I'm sorry I had to impose on you for crash space, but I had come to the con as a last-minute thing and the people I'd hoped to be able to crash with were full, so they referred me to you. Thanx again.

Re the trivia contest: it would be nice to have a slightly more lasting award, there should have been more Niven questions (if not because most trivia buffs in the Midwest seem to be GT, then at least because he was the GOH), and anyone seen brandishing filksong questions in the future should be shot on sight!

If you wouldn't mind having me clutter up your room again, I'm interested in space for Windycon. Now all I have to do is get there. I'm glad you don't drink smoke (it would be bad enough if you just inhaled and exhaled the stuff, but to drink it...yeck!)

Are you sure these Kentucky Fried Satellites are not the doing of the Fed Menace? In our present martial climate I wouldn't be surprised to hear some crackpot general say that that might be the case.

The only characters in The Flying Sorcerers that I don't know for sure who they represent are Musk-Watz, god of wind, Snoogar, and Lant-la-le-lie-no. I was planning to publish a table of who's who but I'm running short on room, so it'll have to wait until next time (or, most likely, even later).

"Don't leave home...without it"? AARGH! Is that Bill Higgins or the Bandersnatch? Is that Kzin coming out of McNiven's? Is that me firing the laser through your (?) head? Somehow I had always imagined that transfer booths would have a band running around the hemisphere-to-cylinder transition...wonder why?

Regarding the AMC Pacer, it is my belief that the Pacer is the Airflow ReSoto of the 1980's. I know that sounds like a joke, but think about what the Airflow ReSoto was: if you look at it now, it looks just like all those other 1940's cars, but the difference is that it was manufactured years earlier. It was laughed at for its novel styling, but within a few years it was the standard (with some modification). Already cars are moving toward the Pacer's glass area, although styling is tending toward boxy rather than bubble-shaped. I

may be wrong, but the past is the only tool we have for predicting the future.

WFESTECH: re yr noticing the resemblance of ESB's last scene to the stock opening of BSG, several GTers at the Whatcon viewing of the former attempted to sing the "Galactica Theme" at that point, but the film's music was too insistent. I think if I go to a showing again with a large group of fen I'll try it again. Perhaps on the first anniversary showing?

How can you talk about the soundtrack of Star Trek the Motion Sickness without mentioning that stirring Klingon theme? (OK, maybe I am a bit rabid about it, but it was the only thing I found really exceptional about that multimillion-dollar film. As stated above, it's not a bad film unless you know what went into it (like ten years of fanish expectations)). Even Starlog has complained about the quality of the ESB album. Another disc I've heard recently with this problem is the Silent Running re-release, but I can think of many reasons for this: it's pressed in transparent green vinyl, is a re-release of a film score (which probably wasn't recorded on the finest equipment in the first place, considering Silent Running's budget) and probably the master wasn't taken care of too well.

I recall the Rotsler-Foglio cartoon war at Windycon 4. I had seen only Rotsler's triangular people and wondered how such a simplistic style could stand up to Foglio's. I discovered that they draw about the same when in a hurry! Speaking of which, I saw two or three of the cartoons from that cartoon war in the Whatcon 2 program book. How on Earth did they get there?

I recognize KAP 120C and C57D, but what is 29M9Z? And who has the other two? About the only fanish licence plate around here is FIAWOL. I would have gotten TECHIE but I needed a license to put on my car right away and would have had to wait a while for a personalized one (not to mention \$10 extra).

Re yr CT QS: I recently reread Niven's "The Warriors" and wondered: if you have two ships moving in tandem near lightspeed, one ahead of the other, will the reflected light traveling from one to the other be Doppler-shifted? What about light generated on the ships themselves? In other words, would the Kzin ship ahead of Angel's Pencil appear redder or bluer than normal, and would its running lights be shifted too (either)? Greg, is this within your resources?

Well, that appears to be that. Until next time, I remain your only friend and humble narrator:

David D. Levine

David F. Levine

Lost in the Darkness

Donna Strawe's zine for Apa-Tech #8, brought to you from
2545 W. Wabona Chicago, IL. 60625 (312) 275-3428

OK, folks -- you can start looking for your name now.
Yes, it's time for...MAILING COMMENTS.

The 555 Times-Renee-Yes, people want to read what you put together.
We do want to get the next issue. And I think you're right
about the Apa continuing for another year. (at least!)

The MuBetan-Michael-How did you come up with the Glow in the
Dark index? It is indeed a strange way of categorizing people.
But it works. I can think of quite a few people who have a high
Glow in the Dark index.

YAAITSS-Misha-RAEBNC

Incorrect Thoughts-Marty-Re yr ct Doug-What are the multitude
of sins that marriage excuses?//Where's my postmailing from #6?//
Oh, and us, welcome!

Dr. Gonzo's-Valli-RAEBNC

The Jupiter Effect-Kevin-Welcome to the apa!//You aren't the only
one who hates to think of titles for zines.

Kwip-Kip-I'm gonna be in your neighborhood real soon. Of course,
by the time you read this, I will have been and gone. My family
is visiting my brother and sister-in-law who live in Henderson,
which isn't quite next-door, but it's a lot closer than Chicago.
I'll try to stop by or call, but my father is definitely non-fannish.
(and that's the understatement of the year) and I don't know if
I'll be able to get away. We shall see what happens.

Transporter Topics-Rod-RAEBNC

Smith's Corona-Dick-Yes, Valli's con reports make ^{sense} ~~sense~~ to me-
possibly because that's just about how my thoughts run for a
week after a con. You described it perfectly-garbled. Pandom
has always sort of awed me-hopefully it always will. And you
should be happy to see Valli's reports were actually in whole.
real sentences this time.

This Space For Rent-Rolf-Welcome, and I've got two questions
for you-is there a male antagonist? a female antagonist?

Overdue Bill's-Bill-RAEBNC. But welcome to the apa.

Dr. Gonzo's (again)-Valli-OK, that's it. Two zines, two issues
in a row? And one is 13 pages long! You trying to make the rest
of us look bad or somethin'?//Re yr ct me-yes, try to keep a good
outlook on things-even if you are swimming upstream. And if I
can help at all, all you need do is ask.

Singularity Three-Save-Congrats and good luck. Wish I could
be there to say it in person, but I'll be in Colorado then.
Much love to both you and Carol.

Las Vegas-David-Welcome!//Re yr ct me-The title is important-
it's the first thing someone sees when looking at my zine. Of
course the content matters too, but I think I should at least
try to come up with something interesting for a title. In
writing classes I was always taught that the title should catch
the reader's attention and make them want to read what follows.

Uncle Dave's Journal-Dave-Good to see you in the apa.//I, too
thought it was interesting that all the main characters in TESB
knew how to weld.//Good luck on finding a summer job.

The Armchair Speculator-Doug-Glad to hear your classes are going
well. I also heard that you did get a job. Congratulations!
How did things go with your COBOL program?

The Answer is Austausch-Gretchen-I almost fear to ask, but
what did your ad say?(the one you put in the paper at Northern)
Welcome to the apa!(even if it is only an annex to Doug's zine.)

Takes a Lickin' and Keeps on Tickin'-Renee-Re yr ct Rod-ditto.
When music can change what I'm seeing and feeling, then it does
truly succeed.//Re yr ct Dick-who says we're supposed to take
fandom seriously? Besides, who wants to?

'She Was Built Like a Brick Synchrotron'-Bill-I like the idea of
follow-the-bouncing-airplane choruses of "Benson Arizona". I
think I'd rather have banner towing than skywriting, ~~just~~ simply
because of the benefits-the weather not being as important, and
being able to lengthen the message, and have it up for a longer
period of time.//Re yr ct me-the reason I talk about my image, is
that I worry a lot about it. You know about a certain letter to
my father, and it's general content. Obviously someone doesn't
think too highly of me, or some of my actions and relationships.
I also recieved a letter the other day, and part of it said "In
meeting and talking to you, I have been given no reason to like
you...I feel that you have asked and persued the wrong things too
early in life..."Obviously someone else(who shall remain nameless-
at least in print and for now)doesn't think highly of me either.
As easy as it is to say "so much the worse for them", it's a lot
harder for me to believe it. If I'm making that kind of impression
on some people, I begin to wonder about myself as a person, and
also my "image". I know that it's impossible to be liked by every-
one I ever meet, but I still like to try. I do act the way I want
to, and even though if I had my life to live over again, I'd
change somethings, I don't really regret anything I've ever done.
If I didn't live through some of those experiences, I wouldn't
be the person I am. I worry about my image, yes, and myself as
a person, but most of the time I like being who I am. And it's
comments like yours("you have plenty to offer as you already are")
that make me believe I'm a worthwhile person. Thanks-I needed
that. (And I think you're pretty fine, too...God love ya!)

Whew, I guess that was my longest mailing comment, but your
comment to me sort of set that all off. For quite some time my
self-esteem has been in the basement. Partially because of recieved
letters mentioned earlier. But, due to a multitude of friends,
I've been feeling steadily better about myself again. Thanks to
one and all.

Special Comments Dept.

Kieth-Good luck in California. (Even though I'll miss you) Hope we'll still see you in the spa. You'll definitely be missed at Thursday night. There's lots of people in Chicago who care about you. Keep in touch.

Mary Lynn-Recieved your letter. Some of the things you said were right. And I didn't need you to tell me about them. But most of the things you had to say were wrong. You don't know what my feelings are, and I doubt that you'd care if you did. You said that I can't make Tullio happy-I'd say he's a better judge of that than you are. I may not be able to make him completely happy (at this time) but at least I haven't hurt him either. And, believe it or not, I never intentionally hurt Todd. I have never asked, nor do I think I ever will ask anyone to choose me to the total exclusion of someone else. And although I'm sure there are times that I do, I try very hard not to put conditions on my love for someone. If I love them, I tell them in whatever way I feel is appropriate. As for pressuring Todd, I wasn't-at least not to my knowledge. But even if I were, for the sake of arguement, and he did "choose" me-What do I do then? I still have what I consider to be a very good relationship with Tullio. (in short, we love each other) and I have never hidden that, nor my feelings for Tullio from Todd. Sorry, but it wasn't me who was putting on the pressure.

And now that I'm done with the MC's, time to start rambling on.

Well, here I am in the beautiful Rockies. (No, Valli, the Rockies are not the only heaven-on-earth - but they're one of the few) I wrote the mailing comments in Chicago before we left, and rereading them, I realized some (one at least) was sort of bitter. I suppose that's only natural since I was sort of bitter when I wrote it. I think that by next time I'll be a lot less upset, and hopefully I'll be thinking somewhat higher of myself then I have of late.

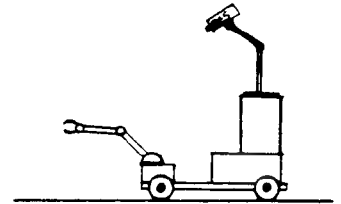
Now I have a general question to everyone. I've always been fasinated by the subject of love. I was wondering what everyone's ideas are in regards to love/jealousy, love/friendship, love/sex, love/____(fill in the blank with whatever is appropriate) Also, does anyone else believe that there is a difference between loving someone, and being "in love" with someone?

That's all for this ish, I s'pose.

Donna

TRANSPORTER TOPICS

by
R. E. Smith
922 Belvoir Dr.
Frankfort, Ky. 40601
KA4PUC



MASS DRIVERS

Instead of a hollow rail with the bucket inside, why not use a simple solenoid, with an annular bucket around it? This would be mechanically and electrically simpler, although it would be limited by the cantilever construction. The design would be strictly for high-g operation.

NOREASCON

I will be flying in around noon on Friday, and back out at around 2:30 Tuesday, so if anyone has some pre- or post-con activities I will be available during those times.

Will there be a GT room, like at Iggy? If so, some volunteers should get together with whoever does/has done the reserving and plan a program, even if this only includes meetings/parties. An example would be Midwestcon in Louisville, last year, only more so. The lack of a plan was one of the reasons for the disappointment of the Iguana Con room (along with bursting pipes and the staff using the room as a shortcut in and out of the kitchen).

STAR BLAZERS

For those of you interested in this show, or in Japanese animation in general, there is a group called the Cartoon/Fantasy Organization which sponsors showings and a fanzine on the art of animation in general and the Japanese aspects in particular. They also have video tapes of program episodes in the original language with English subtitles. You may have seen them at various cons around the country. The first viewing of one of the giant robot cartoons is unforgettable. Picture an articulated battleship, usually in the form of a Japanese feudal warrior. Jamie Hanrahan, take note. Unfortunately, Fanta's Zine, the main publication, is currently being limited to members only. I have the address for those of you who are interested, or you may want to stop at their video room in Boston.

AMATEUR RADIO

As some of you may have noticed by the letterhead, I am now a ticketed ham. Come on, people! If Mr. Amnesia (me) can learn code, anyone can. Who will be the first members of the GT radio net? (That would be one version of an electronic APA.)

MAILING COMMENTS ON #7

Timer Times: Now it can be told. I used to refasten my copy with the industrial strength stapler at work. Your new gadget works well enough that this is no longer necessary. Still, maybe if people kept their zines short.....

Incorrect Cerebrations: Marty, you've hit on one of my vices. Wargames! My favorite simulations are role playing, but board games are also fun. (Roll dem bones!)

The Jupiter Affect: Another wargamer?! I have read detailed analyses of The Jupiter Effect in various science mags. Seems to me that if pressures were at or near the breakong point, ground tide would be enough to set things in motion.

I think most people have too simplistic a view of the professional inventor. The Wright Brothers, often cited as examples of the basement inventor, actually used a strict application of the scientific method, and built the first practical wind tunnel to test their ideas. Edison set up an organization solely for the purpose of creating profitable inventions. With modern tools, like the home computer, we can expect a rebirth of the small-scale inventor.

Anthropomorphoc Particle Smasher: I know, Bill, I know! Part of the problem is that I am slightly dislexic, sometimes confusing left and right; also, my keyboard is a bit small for a two-octave pair of hands. Then again, when I really get cooking I sotimes leave out letters or evn entire. I am working on it, though, so please, no more criticism. I'm bigger than you.

I am a fairly religious person, and believe in the concept of absolute right and wrong. If the argument that a supreme authority stands in judgement fails to impress someone, however, I try to explain the principle of enlightened self interest. This , even without a religious basis, is more sensible than most of the more semfish philosophies of life.

"That's right. We feel that our computer hardware and software are sophisticated enough to allow one person to handle the fighting while the other acts as engineer and backup."



|||||
Bailey led the judge on a tour of the shop, showing him the bulldozer they had rebuilt as a field recovery vehicle for practice, and introducing him to the personell. The tank itself was only partly finished, allowing the foreman to point out various features. At one table there was a large piece of armor, and this was the next place Bailey stopped.

"The combat rules for this class allow up to forty-five centimeters of primary armor, and we are using every millimeter. The laminated construction our engineers came up with offers excellent protection while staying well within the weight allowance. The outer layer is five centimeters of ceramic coated monocrys-taline superalloy. Next is thirty centimeters of foamed plastic space armor. Then comes another layer of MSCA. Finally, there is an inner layer of five centimeters of composite material, as an anti-spalling safegaurd. The secondary armor around important areas is also composite, for lightness."

"I'm afraid I'm not very technical," smiled the referee. "My area is legal. However, I believe that I can say that your approach is a bit less tradi-tional than that at Braden Industries."

"How strange it is," Simpson continued, as he examined the armor. "We have again reached the point where a tank's worst enemy is another tank. Few aircraft can carry the weapons needed to kill a tank, and fewer still can make it safely away."

The two men were walking towards the office, when a secretary came running out, quite excited and upset.

"Mister Bailey! Our perimeter sensors show a large object moving this way, probably a tank!"

"But that's illegal!" exclaimed the umpire.

Bailey ran into the office, grabbing the PA mike. "Attention, everyone! We may soon be under attack. George, get some men together and tow the Juggernaught out of here. The rest of you grab what you can and scatter!"

There was a rush of hectic activity as tools, plans and parts were hastily dumped into bags and cases. A tow chain was hooked to the tank and wrapped around the frv's balde. Simpson confronted Bailey as the supervisor emptied his wall safe.

"Don't you have any defenses?"

"They aren't ready yet. Like you said, an attack at this stage is illegal."

Simpson's reply was lost in the noise, as an exploision tore a hole in the side of the building. Workers stopped packing and ran, many of them empty handed. One man jumped into the cab of the tractor and frantically began towing the tank.

With a roar of the engine, the enemy machine crashed through the weakened wall. An automatic weapon began spraying the FRV with bullets. Realizing that he was a sitting duck, the driver dropped the blade across the chain, cutting it. The enemy tank maneuvered its way around behind the now stationary objective, to where a gap in the armor left the insides exposed.

Before the traverse was completed, however, the FRV operator rammed his blade into the barrel, lifting. It bent, but only elastically, springing back straight as the tank driver reversed treads and backed away.

The 'dozer driver lowered his blade and made for the door. The tank gurner, apparently deciding that this machine could be a nuisance, fired the main

gun. The whole vehicle shuddered with the explosion.

The shell was HE, however, and not armor piercing. The blade was warped and the lift arms bent, but still serviceable. The FRV made it outside, and turned out of sight.

The enemy tank pursued. It rolled out just in time to see the 'dozer disappear around a low hill. The tank followed, treads tearing parallel gouges in the turf. As it neared the base of the hill, the FRV came roaring over the summit.

It caught the tank blind, the blade ramming into the port tread. Then the operator raised the blade. The tread was off the ground before the tank driver recovered, the slope helping the straining diesel engine of the tractor. Machine guns sprayed slugs wildly, but the FRV was below their line of fire. Slowly, the tank tipped. Then, finally, it rolled over.

The 'dozer driver killed his engine, and there was silence.

* * *

It took three hours to cut the five men out of their defunct vehicle. Simpson watched the entire process.

"A marvellous performance. Is that men, the one who drove the bulldozer, one of your trainees?"

"Uh, no," replied Bailey. "He's an engineer. After this, though, we will seriously consider making him our primary pilot."

"Well, you can be certain that Braden Industries will be seriously penalized for this breach."

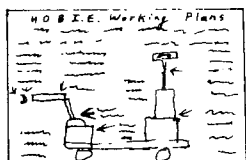
The above is the first part of a short story I am working on. It was inspired by the summer I spent weighing trucks in a rock quarry. Some of those end loadse drivers can crack an egg without breaking the yolk. The idea is that, in the near future military contracts will be awarded to the victor of trial combat between competing designs.

Well. that seems to be all I have to say for now. Guess I'll fill the rest of this white space with cartoons. Remember, anything will lase if you pump it hard enough.

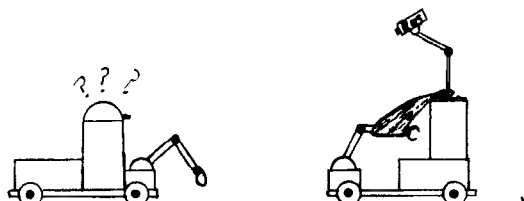
Late-breaking bulletin: Ky just had its first noticeable earthquake in 150 years. Of course, the last one turned a range of hills into a swamp.

Rod

P.S. It was centered in Maysville, Ky.



"UH ——— HELP !" 1) 22



"DON'T ASK !"

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#####
#                               I got those                               #
#       SEVENHOURS DRIVING ALONE IN THE RAIN WITH HEADLIGHTS           #
#       GLARING IN MY EYES AND MY LEGS ARE CRAMPED AND I REALLY          #
#       DONT WANT TO BE GOING THIS WAY AND WHEN I GET HOME SOMEONE      #
#       HAS BROKEN INTO MY APARTMENT AND TAKEN MY STEREO BLUES         #
#                               Rolf Wilson                               #
#                               158 South Prospect #2                     #
#                               Ypsilanti, MI. 48197                     #
#####
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Yep, they got me. It looks like someone just put their foot into my door, which obligingly split. Goodbye stereo. It could have been worse. They were in a hurry, so they didn't take my TV or my guitar or my typewriter or my calculator or my camera or my credit card, all of which were in sight.

Seeing the way my door split open just reinforces my feelings on how everything seems to be so damn flimsy. I'm a large person, about 3 sigma strength, so I sometimes break things just by accident. Once I broke my brother's door down - I thought it was stuck, not locked. It makes me appreciate things that are built to last. I have been heard to state that if I want a bookshelf to put paperback books on, that it should be able to stand up to at least a small nuclear explosion. Something to put hardback books on should be sturdier, of course. I always feel pleased when I find some sort of tool that will probably outlast me. Trivial example - I wanted to buy an eggbeater. It took me weeks to find something that worked well, and did not look like a firm handshake grip would crumple it. Know of anyone who sells a line of cookware made of scith?

I don't think I've ever written a computer program to play a game before, possibly because I never bothered to do someone trivial. I tried to do a bridge program once, but I discovered that I don't yet know enough about the game. But it has made me sure that any commercial bridge program that fits in 16K is a piece of junk. But I'm making another try. Scrabble. I've heard of (but never seen) Scrabble programs, so I don't have many pre-conceived notions. But I have found a data structure that will let me find all possible words in the vocabulary that consist of any permutation of a given string with log₂n order search. My final hope is the construction of a program that will beat me, its creator. My chief fear is that the disk access time on the medium-size computer I work with will limit the complexity of vocabulary searches. I'm going to try it with a vocabulary of 15,000 words and see how it does. Yes, I know that a litter-ate person like you or me knows about 40,000, but we do not have perfect recall or efficient search algorithms. I suspect that such a program is limited to a medium or large computer for at least the next few years. Of course, if the Intel iAPX432

is all it claims to be, I will gladly eat my words. (Maybe I could buy one and let it eat my words)

It's all Bentley's fault. Yes, I know that this statement applies to alot of things, but it is quite true in this case. Sometime in 1976, Mike showed my a flyer for something called a Windycon 3. It looked interesting, so I went. I was suffering from a strange malady (strange is right - I'm usually disgustingly healthy) at the time, for which I was taking cortisone. Very powerful and effective stuff. Trouble is, I forgot to bring it along with me. I didn't meet many people at Windycon 3 because I spent a lot of time in bed reading, as walking was rather painful. Despite all this, I went back again for Windycon 4. I didn't really know about all those other conventions which can be found in between. So I went to 2 the next year, 7 the next and 9 last year. What's the next number in the sequence 1,2,7,9? I don't know, but it could be rather large....

Memory association time. When I mentioned "sequences", it made me think of something I saw in an issue of "OMNI" sometime last year. It was "The World's Hardest IQ Test" as administered by the Four Sigma Society. I never turned it in, by Idid parts of it. They had a part on determining the next number in a sequence, and it was quite challenging, unlike all the ones I had ever seen ih school. Care to try your hand? Choose from the 5 answers given. One hint - if you find the true pattern, you will be sure of your answer.

- | | |
|--------------------------------|--------------------------|
| 1.) 5 8 17 24 37 | a)46 b)48 c)53 d)62 e)65 |
| 2.) 1 3 4 8 15 27 50 | a)88 b)90 c)92 d)94 e)96 |
| 3.) 7 10 5 9 3 8 2 | a)5 b)6 c)8 d)9 e)10 |
| 4.) 5 7 3 1 4 5 9 5 | a)1 b)2 c)4 d)5 e)7 |
| 5.) 8 10 7 12 5 16 3 | a)17 b)18 c)20 d)21 e)22 |
| 6.) 11 13 17 25 32 37 47 58 71 | a)79 b)83 c)88 d)92 e)97 |
| 7.) 2 3 6 10 17 28 | a)41 b)42 c)44 d)46 e)47 |
| 8.) 6 6 4 8 4 12 4 16 | a)0 b)4 c)6 d)8 e)12 |

Answers on page 8

G.T. Buckfast Do you have double-sided reproduction available?
It would have saved 22 pages in the last issue.

Singularity Have you gotten around to writing "That Old Time Dilation"? Also, I must sadly report the demise of the China House. New management has made it into "just another Chinese restaurant".

Westech I know what KAR120C is. What are Z9M9Z and C57D?

MuBetan Sorry Mike. 9 digits won't pinpoint us down to the square millimeter. 19 digits would be required, although 14 letters would do as well.

Transporter In your scenario, how is it that this race managed to reach the stars, but did not use any of the easily available mineral resources on Earth?
If they had, we would have noticed it.

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N O I S E

I feel good again, now that I've returned from my exile to Kansas back to my well-liked Colorado. Things are really going swell here; I feel as though I'm on vacation. I am working on another CALMA graphics system, but this one has a color screen, as opposed to the monochromatic system I worked on in Wichita. I am also going to be almost in charge of our new VAX 11/780 computer. In fact, in an hour I'll be going to the airport to catch a plane to Los Angeles for a week-long introductory course on the VAX. The VAX is really a nice machine, especially when compared with the kludged-up CALMA. It came with Adventure and Zork on it, too! When I get done with all of my work, I can play Zork on the terminal in my office. What fun.

C O N G A M E S

AmberCon II went very well, earning \$500 for our charity, the local public radio station. We had 500 people pay to attend, the entire thing went very smoothly and was most enjoyable. AmberCon III is currently in the planning stages, I am slated to be the fan guest of honor, which really tickles me. I didn't even beg or anything! I will also be the Toastmaster at Bubonicon this year, which looks to really be fun. Roger Zelazny, Steve Donaldson, Suzy Charnas, and Fred Saberhagen will be there, in addition to the GoH C.J. Cherryh. Bubonicon, for the two of you who don't yet know, is a really nice little relaxicon held the weekend before WorldCon in Albuquerque. It is very pleasant and friendly, and the programming is low-key and even interesting. The films are chosen to be the absolute worst SF films ever made; over the years, they have come up with a real collection of losers! They are really fun to watch and holler at, as well as providing a convenient programming item to miss to start the parties instead with.

G O O D I E S

Last week, Ball Brothers had a sealed bid auction for a bunch of scrap equipment. I managed to latch onto a Savin 200 copier for \$27, a Sony special effects (video) generator for \$29, an ABDick Master/Transparency maker (thermofax) for \$31, and a paper drill for \$29, in addition to a 16mm film washer and a boat anchor of a microfiche viewer for about five bucks each. I'll keep you informed as to my progress in getting them working. Til next month, *Gordon*

AmberCon II

Science Fiction Buffs Plan Weekend of Fantasy and Imagination

By LORI LINENBERGER
Staff Writer

Five hundred science fiction fans — by profession, by hobby and by persuasion — will indulge in a world of fantasy and imaginary this weekend.

Attending Ambercon II, the second annual Wichita science fiction convention at Wichita Royale, will be a host of physicists, computer programmers, writers and parking lot attendants with three goals in mind — to have fun, to get crazy and to revel in the one thing that sends most of them spinning off into space — science fiction.

The convention, or "con" in the science fiction lingo that includes words such as fanspeak ("The future isn't what it used to be"); fanzines (little science fiction magazines); and fandom (the domain of fans), serves several purposes, according to two of its organizers, Gordon Garb of Denver and Mike Kennedy of Wichita.

First, it gives SF fans (never call them sci fi fans; it's demeaning) an appropriate excuse to get together and renew friendships and intimacies kindled at previous conventions.

Second, it temporarily satisfies a hyped-up craving each fan has to see, listen to and converse with the science fiction writers and artists who make science fiction fandom possible.

And third, Ambercon will make public radio station KMWU a little richer, as all profits will be turned over to the station.

THE NAME AMBERCON comes from a series of five science fiction books written by Roger Zelazny, who described a land called Amber in his stories. Zelazny, a guest professional at last year's convention, was such a hit that the convention organizers named the event in his honor, says Garb.

"Most people name their conventions after the city they're held in," he explained, citing NYCon, LosCon and BosKone and Mile HighCon as examples. "We thought about WichitaCon, but it just didn't sound right. Believe me, we tried to work it in."

Garb, a computer programmer sporting an unruly dark beard and wearing a Captain Zilog T-shirt over painter pants, looks more like the outdoor Frisbee type than the insatiable consumer that he is of science fiction works by such greats as Isaac Asimov, Donald Wollheim and Ray Bradbury.

"Nonconformists, that's what we are," Garb says about fellow fandom-members. "In high school we



SCIENCE FICTION KING AT WEEKEND MEETING ... Fans will indulge in a world of fantasy at Ambercon II

weren't the football hero and cheerleader types. Each and every science fiction fan has this inquisitive nature that makes him want to read everything he can get hold of.

"Science fiction fans read the safety cards in planes. No one else reads those, but we have to know how things work."

Although science fiction enthusiasts have commonly been thought of as bizarre and frenetic, they all share a rather noble trait, Garb says.

They are, for the most part, intellectuals who still gaze at the stars and wonder what's beyond them.

FURTHERMORE, FANS share a common desire to laugh at the far-fetched and scorn the unbelievable, Kennedy added.

"We're showing a short movie called 'Hardware Wars,'" he explained. "It's a spoof of 'Star Wars' and it's funny. You have Death Eggbeater chasing the Giant Iron through the sky and Princess Leia Oregano tossed in. That's funny. It's entertaining."

"But we don't laugh at something like 'The Black Hole,'" Garb picks up. "That's an insult to our intelligence. It's Walt Disney trying to fool us and not even caring about it."

Science fiction enthusiasts from as far away as New York, Los Angeles and New Jersey are expected to attend Ambercon, which starts Friday and runs through Sunday,

ending with a banquet. The convention, sponsored and promoted by a group of SF fans in the area, is open to anyone with an interest in or curiosity about science fiction.

Special guests this year are Frederick Pohl, a noted science fiction writer whose famous book, "The Space Merchants," depicts a future society in which the public relations agencies have gained control of the government; Walt Liebscher, the Fan Guest of Honor who has been active in fandom since the 1930s and has written his own science fiction story, "Do Androids Dream of Electric Love"; Vincent DiFate, who won the coveted Hugo Award as the best professional artist of 1979 for his imaginative book and magazine covers; and Wilson Tucker, a Midwest SF fan and writer of long standing who coined the word "crud" in a story he wrote.

Besides meeting with professional authors, editors and artists, fans will watch science fiction classics such as "The Illustrated Man," "Colossus: The Frobin Project," and "The Man in the White Suit." They can play science fiction computer games, browse through a sales room and attend an art display, too.

Registration will begin at 9 a.m. Tickets for the weekend are \$10 and one-day memberships are \$5. Children under 12 will receive a special rate. Banquet tickets are \$11 each. All tickets will be available at the door.

somehow that doesn't have the right ring to it...)

Meanwhile, back at the title of this piece.... (You do remember the title, right? If not, I'll wait right here while you turn the page and refresh your memory.)

You see, I just got what is likely to be my last paycheck for the next two years. I'm going to be really broke. Or, at least, I'll feel broke. (Aside to Rolf--you wanted that statement in writing; well, here it is!) (Aside to the rest of the APA-TECH population--Rolf is waiting for me to make some absurd bid at the Windycon Art Auction, at which time he intends to present this statement to the auctioneer. I mean, what am I worried about? Everyone knows I never buy anything at art auctions. I just push everyone else to absurd bidding levels and drop out. Jerry Corrigan still hasn't forgiven me for the \$31 free-bid on "Lord of the Ringworld". I was just trying to be a nice guy. I knew that Doug VanDorn really wanted that piece and that \$30 was his absolute limit. When Jerry bid \$30, I figured I would bid \$31, and if that held, I would hand Doug the dollar and tell him to go pick up his painting. Jerry jumped to \$35, and I shut up. Since then, he's accused me of doing a deliberate fund transfer from him to Mary Jean Holmes. Of course it wasn't that at all, and the whole thing was done with the best of motives. Anyway, everybody knows that Jerry is rich...)

I wouldn't be able to consider going to Northwestern except for the fact that my parents have agreed to pay for it. This was nice of them, and of course I'm grateful, but for two years I'm really not going to have any money of my own. (They strongly recommend that you not take a part-time job while in the M.B.A. program.) I suppose I'll live through it. Anyway, I'll have some savings from this summer stashed away, so I can use them to fund my con-going for a while. (The last thing I need is a terminal case of Twonk's Disease.)

Digression: (Oh, you thought this whole thing was one long digression?). You may have noticed that this time my zine is not in the beautiful two-column justified format produced by Bentley's computer. This is because Bentley's computer died to a hardware error while he was trying to load a program that Bill Leininger sent down from Chicago. (I didn't know it was possible to write a program that would bomb off the hardware, Bill. Can you send me a copy of the program? I want to try it on PLATO...)

Bentley got the computer working again, but alas, there was such a backlog by that time that I decided to go ahead and produce this zine on my nice new (got it for Christmas) Smith-Corona (no, not Smith's Corona) Vantage electric typewriter. After all, when I get to Chicago, I won't have access to fancy word-processing machines anyway. I've typed maybe twenty pages total on this typewriter since I got it. I had to take it to the shop in May, because the machine had spewed out a part that causes the little typeball to rotate, and as a result, I couldn't type anything. Since the gizmo only has a spectacular 90 day warrenty, I got to pay for that repair.

Ok, I can understand one thing going wrong. However, up there a ways on this page, right after "Jerry is rich...", the paper roller decided that

it no longer wanted to rotate. What's more, the entire carriage exhibited an alarming tendency to slide to the right...

I called the SCM Corporation in Syracuse NY. The consumer rep there was singularly unhelpful. I point out that the typewriter is functioning amazingly poorly for only having had 20 pages typed on it. She suggests that this is the reason that they have a 90 day warrenty. I suggest that the typewriter is a piece of junk. She suggests that it is a complicated machine, and thus it is not surprising that things go wrong occasionally; however, that the chances of anything else going wrong are virtually nil. I suggest that I will call her back in another ten pages when it breaks again. So I end up hauling the thing to our local Smith-Corona repairman, and fifteen dollars and three days later, here I am, typing this zine once again. (This does terrible things to your train of thought...)

My recommendation is that you not buy this model of typewriter without getting at least a one year parts and labor warrenty. By the way, it turns out this particular machine was made by Olivetti (or so the repairman says.) *sigh*

(Bill. Bill!)

"Huh? What now?"

(Bill, this is supposed to be a techie zine. Cut out the personal reminices and say something techie!)

"Aw, come on. Give me a break. I just spent nearly a page talking about my typewriter. That's techie."

(That is not techie. That is singularly mundane. What do you think you are, Consumer Reports?)

"If I want to warn people about a company that sold me a piece of junk, that's my privilege."

(I reiterate--talk techie!)

"Look, I can't tell a whistle circuit from a blinkie. I couldn't program in 8080 assembler if my life depended on it. You want me to say something techie? Ok. Techies have no--"

(You might consider continuing the discussion of organic superconductors that you started last issue. After all, you barely got through Superconductivity 101 last time.)

"Hmm. That's not a bad idea. Now where did I put those notes?"

(You might also stop ripping off Dick Geis.)

"Oh, right. Gotcha."

Now where did I leave off?

"Golly gee, Mr. Wizard. I remember you told us that you wanted to use light lattice elements so that the superconductive effects would be stronger. But then you said that they were going to do this by using big heavy organic polymers, and that just doesn't make any sense!"

Well, it does when you look at it the right way, Keith. You see, you don't make the polymer move—you make the electrons in the polymer do the moving. They're really light compared to the nucleus of an atom, so you can get them to move a lot further and produce a bigger distortion than you could with any sort of metallic lattice. And that means you could have superconductive effects at much higher temperatures than you can ever achieve with a pure metal or metal alloy as the superconductor.

It's time for some examples. (Unfortunately, this is going to require a little bit of organic chemistry, so try to bear with me.)

Lets start by looking at the simplest molecule containing two carbon atoms: ethane. CH_3CH_3 . Each carbon atom is singly bonded to four other atoms. In a single bond, the electrons are pretty localized—they spend most of their time between the two atoms that they are holding together and it's rather hard to get them to do much of anything. Since the bonding of the two atoms released a good deal of energy, it takes the same amount of energy to get those electrons loose, and thus you can't get them to do something useful, like carry a current.

(On the other hand, in a metallic conductor such as copper, there are a lot of electrons that are only loosely bound to the copper atoms forming the crystal lattice. This electron "sea", since it's not associated with any particular atom of copper, can easily be induced to carry a current.)

Now lets remove two of the hydrogen atoms from ethane, one from each carbon atom. This gives you CH_2CH_2 —ethene. Counting quickly, you can see that each carbon atom is bonded to three other atoms. Unfortunately, the two carbon atoms still want to have four bonds each. But that's ok, because we can just form a second bond between the two carbon atoms, and then they'll be satisfied.

That's nice, but you can't put two more electrons between the two carbon atoms. That's where we put the electrons to make the first bond, so now that space is full. (In the language of quantum mechanics, that orbital is now occupied, and the Pauli Exclusion Principle prohibits a third electron from residing in the orbital since it would have to have the same spin as one of the electrons that is already occupying the orbital. End of digression to prove that I really know what I'm talking about.)

We've got to put those electrons somewhere if we're going to make a bond. What's more, if we're going to make a bond, we've got to put those electrons someplace where they are lower in energy than they are if they aren't making a bond—after all, if you have to put energy into the system to form the bond, then you haven't gained anything by making that bond—the electrons might just as well be on the atom that they

started with. And that's where they'll end up if we can't find a good place to put them.

Well, it turns out there is a good place to put those electrons. There's a perfectly good empty orbital (a pi orbital) hanging around, and although we don't get as much energy by putting two electrons in that orbital as we did from putting the two electrons in the orbital that's between the two atoms, we get out enough energy to make a bond. This kind of orbital is called a pi orbital. The first orbital is a fuzzy cloud between the two atoms. A pi orbital is a fuzzy cloud above and below the two atoms.

We've made some progress now. Lets try the following thought experiment. (It's a thought experiment because there's no way to carry it out actually.) We'll take a molecule of ethane, and we'll attach one end to the negative terminal of a battery, and the other end to the positive terminal. (See what I mean? Try doing that with a soldering iron!) All the electrons in the ethane molecule are low in energy so it doesn't conduct the current very well at all. It takes a lot of energy to knock them loose from the orbitals that they are in.

Now lets do the same thing to a molecule of ethene. We notice immediately that ethene conducts the current much better. The electrons in the pi orbital are higher in energy and can be knocked loose more easily.

I've been trying to do this without resorting to pictures; that may not be possible much longer, but I'll see what happens...

Ok, so lets suppose I can conduct a current using a molecule of ethene. In the everyday, macroscopic world there's not much use for a wire of that length (or lack thereof). I need something that will carry a current over a distance. What I want is a long molecule--it doesn't have to be as long as the wire, because the current will still flow even if I occasionally have to persuade it to jump the gap between two molecules--with a big long pi orbital running the length of the molecule.

We'll start small--we'll try to make a wire that's twice as long as our original ethene molecule. We'll take two molecules of ethene, pull a hydrogen atom off one end of each, and stick them together to make $\text{CH}_2\text{CHCHCH}_2$ --butadiene. Now we've got a wire that is twice as long as the one we started with. If you look at the molecule, you'll find that the bond between the two atoms in the middle is a single bond, while the bonds going to each end are double bonds (ones that use pi orbitals for bonding). One way to tell this is that the single bonds are longer than the double bonds.

Now we can hook our molecule of butadiene up to the battery and watch the current--not flow? Oops. We've got double bonds on the ends of the molecule all right, but we've got a single bond in the middle, just like the one in ethane, and it's lousing up the current flow. Obviously, we've got to do something about that.

We could pull off a couple more hydrogen so that the bond in the middle is a double bond too. Unfortunately, this double bond is pointing in the wrong direction, so the current still doesn't flow very well. (As an analogy, instead of the current flowing in a straight line, it's as if it had to make four right angle turns on its way through the molecule. Visualize trying to do this in a car.)

It seems like we're licked. But a good scientist never knows when to quit, so let's keep going. We'll take another ethene molecule and stick it on the end of our butadiene molecule to make $\text{CH}_2\text{CHCHCHCHCH}_2$ --hexatriene. It doesn't conduct worth a damn either. Now we've got three double bonds and two single bonds alternating. It looks like we aren't getting anywhere, but on the other hand it probably won't hurt us to waste a little more time.

One last try. We'll pull a hydrogen off each end of our molecule of heptatriene and ram the ends together to make a six membered ring, $(\text{CH})_6$ --cycloheptatriene. Of course, we already know that this isn't going to do us any good. All that we've done is to put three pairs of alternating single and double bonds in a ring. It's not going to conduct any better than it did before--maybe not as well, because we added another one of those worthless single bonds.

Um, wait just a minute. Something funny happened here. All the single bonds got shorter and all the double bonds got longer. In fact, all the bonds in the ring are the same length. Weird. Looking skeptically at the molecule, we connect it across the terminals of our battery and discover that it conducts electricity even better than our original ethene molecule did. Baffling. It looks like, instead of having alternating single and double bonds, we've got a ring that's hooked together by a lot of one-and-a-half bonds.

"But, gee, Mr. Wizard, that's only benzene."

That's right, Keith. (Smart aleck kid.) We can see that there's something special about that ring. Organic chemists describe this in a number of ways--aromaticity and delocalization, for example--and if you look at the benzene molecule, you see that we have a cloud of electrons that aren't tightly associated with any particular atom in the ring--they're delocalized. It looks a lot like the situation in a piece of copper--or in a ring of superconducting material.

Well, if rings are special, let's get rid of all the hydrogen and link a lot of rings together. We'll make something that looks like a big sheet of hexpaper. (Pretend that you're wargaming.) And now we'll lay a lot of sheets of hexpaper one on top of the other. If you step back and look at it, you'll find that we've just built a mass of a slippery black substance that conducts electricity rather well--graphite.

Unfortunately, graphite isn't superconducting. On the other hand, it's a good conductor, so the basic theory can't be all bad. We definitely want a long molecule with lots of delocalized double bonds.

In fact, maybe part of the problem was that we used rings. That gave the current lots of space to wander around in, and no real incentive to travel in a straight line. Also, superconductivity is caused by the lattice elements shifting to produce localized positive charges. With all the atoms bound together in graphite, they really couldn't move around much at all...

Enter W.A. Little. Little suggested making a polymer consisting of hundreds of ethene units connected end to end. Now we already know from our thought experiment earlier that this isn't going to work, so Little went further. He said, lets replace some of those useless hydrogen that are hanging off the side of the polymer with a charged aromatic group, a cyanine dye molecule for instance. (Don't worry about what it looks like, since it's not important to the discussion.)

Now one of the properties of charged aromatic groups of this type is important—they are polarizable. That is to say, if you stick something negatively charged (like an electron) at one end of the molecule, the distribution of electrons in the molecule changes so that the end of the molecule near the negatively charged object becomes positively charged and the other end of the molecule becomes negatively charged.

Ok, so lets take the polymer Little describes and try running a current down the length of the polymer. The first electron down the chain passes one of the cyanine dye molecules and polarizes the molecule, resulting in the formation of a localized positive charge. The next electron sees that charge which gives it an incentive to follow right along behind the first electron...

And that's exactly the description of the pairing phenomenon in superconducting systems. Little calculated that if the pi orbitals in the polymer were totally delocalized (like those of benzene), then the polymer could remain superconducting to temperatures of 2200 K. (The polymer would have long since become carbonized by the heat, but...)

Well, this wasn't very likely, and he didn't expect it. (Remember our experience with butadiene and hexatriene.) However, further calculations showed that the molecule might still be superconducting if it met other conditions having to do with the differences in energy of various states of the molecule.

Of course, there's always a fly in the ointment. Paulus pointed out that, since the electrons of the polarized side chain tend to shift back to their normal charge distribution on the same time scale as the electrons carrying the current move along the spine of the molecule, the electron-electron distance would have to be extremely small in order for the charge induced electron-electron attraction to result in the formation of pairs. This, however, would result in a large coulombic repulsion between the two electrons (like charges repel, right?) which would negate the stabilization of the pairs. Later calculations by Chaikin indicate that the molecule would probably be an insulator, not a conductor at all.

Of course, no one has ever actually made Little's polymer, but the theoretical analysis makes it seem unlikely that it would actually be a superconductor.

There have been other attempts at describing and preparing potentially superconducting organic compounds. Despite occasional promising findings, there are still no real organic superconductors. Things that have appeared promising, on later investigation prove to have been misinterpreted or incorrectly gathered.

The only known "organic" superconductor is a polymer of sulfur and nitrogen that is superconducting at 0.5 K--half a degree above absolute zero! (I hesitate to call this an organic superconductor since it doesn't contain any carbon--I guess I'm a purist.) Obviously, this particular compound isn't of much interest in the search for a room temperature superconductor.

But who knows? Maybe they'll find the right combination someday.

And now, what you've all been waiting for:

MAILING COMMENTS MAILING COMMENTS MAILING COMMENTS MAILING COMMENTS MAILING

Hmm...first nasty decision. Do I use names, titles, or do I do it at random? (Mental die roll. Hmm again. It came up random. Ok.)

MU BETAN: Businesses are reacting badly to the nine-digit zip code. They don't want to spend the megabucks to update their mailing lists. Someone figured that the zip code index which they've got down at the Post Office would be 40000 pages long when they got to 9-digit zips. (It's to be replaced with a toll-free number.)

If you think you were in bad shape on Friday at Whatcon, you obviously didn't look at me...

DONNA: Re Tullio--illegitimi non carborundum. As a compulsive meddler, I feel fully qualified to state that two adults are fully entitled to make their own mistakes and their own successes. Everything works out, one way or the other, given time, and the worst thing you can do is to allow everyone else to run your life to give them satisfaction. I could go on in this vein for a while, but it gets repetitive...

YOUNG AND ABROAD...: RAEBNC

INCORRECT THOUGHTS: Thanks for the movie reviews. I skipped them myself. Was Whatcon fun ~~and not like Whatcon?~~

VALLI (1): Sorry about that. (It was the Thursday night ride swapping that I engineered that led to the scintillating conversation that Valli experienced on the way to Minicon.) Look on the bright side--you missed Bill Leininger's speeding ticket!

JUPITER EFFECT: RAE--I'll let Greg comment on this one...

KWIP: Interesting. Shoot the radio announcer. Put him out of our misery.

ROD: I believe that most of the ozone in the lower atmosphere is the result of lightning. I'm not sure how conducive an interglacial period such as you describe would be to thunderboomers, but I suspect that there would be quite a few.

I also have trouble believing that a close pass by another planet could cause the type of climate change that you describe. I suppose that an increase in the amount of dust in the atmosphere would cause a generalized cooling (say if the tidal effects set off the Ring of Fire) and that that and the increased availability of particles for nucleation could cause a torrential downpour, but...

SMITH'S CORONA: Don't mention that company around my typewriter!

Otherwise, I don't like Janus either, and maybe we should get together some time and write a column explaining why we don't like it.

I think Valli's con reports make perfect sense. (They tend to show sides of the con that I miss, which is even better...) Also, I like ellipses...of course, I've spent six years on PLATO.

Suggestion (damn! forgot to indent the last two paragraphs!): read =events= for a while. When you get to the point where you can understand that file, you will have absolutely no problem understanding Valli's con reports...

ROLF: RAEBNC

VALLI (2): See above for comments on con reports. (and ellipses...)

John Hall once discussed a possible article on mixed marriages. The ideas were hilarious, but he has never gotten it to gel. (Rule 1: never make plans for Labor Day weekend, dear...)

SINGULARITY: RAEBNC

LASERGRAM: Re the Pak: I still don't believe it. Oh well, it's his universe.

UNCLE DAVE'S: The recipe for recovering Au is definitely not one that I would try on my stove at home. As an ex-lab jockey, I want a real lab with a trustworthy hood...

DOUG: Nice zine. Don't worry too much about the electronic APA—in seven to ten years, we'll all have home computers anyway. And they'll have prewritten software packages, just like a PLATO notesfile, so that even the computorily illiterate can join in the fun.

I tend to agree with your comments about fandom and politics. I have never been a person who believes that because I am a member of a

particular group, I must support a cause whether I agree with it or not.

Did you know that Barry Goldwater is a Star Trek fan?

GRETCHEN: How about printing the text of the ad that "got" Doug?

About Tarot cards: don't worry about people's wrath. Wait until you see the storm I'm planning to start next issue.

To taste electricity--touch the two poles of a 9 volt transistor battery to your tongue.

RENEE: RAE, but having a hard time to figure out what to say about the mailing comments. I forgot to send in my Hugo ballot.

Maybe I'll think of something to say when I retreat to the 555 Times.

Interjection: It's 3:15 AM on August 1st, and ABC News has just discovered the existence of the Russian particle beam weapons. I feel ill. (Despite knowing that this was coming...)

"History doesn't always repeat itself. Sometimes it just hollers, 'Can't you remember anything I told you?' and lets fly with a club." The defense is finally catching up with the offense again, and God, I hope that we are further along than the government currently claims we are...

BILL H: Best Rathole suggestion I've heard yet. I kind of lean towards the banner towing, since you can do it for longer, vary the messages, and are less dependent upon the vagaries of the weather.

GREG: I like the cartoons. (Of course, I can't draw.)

Nice Whatcon report. As a contestant, I can tell you that I prefer Jeopardy format to College Bowl...Also, I heard that your talk went quite well. One of us talked to the wrong people.

Wish I was going to be able to see you at Moreascon, but as stated above, I'm broke.

JAMIE: I can't find your postmailing right now...oops...

555: I think you're going to have to go to two volumes anyway. The stats were interesting.

Well, so much for this issue. Ten pages, huh? Gads.

Stay tuned for the next issue where we answer the following musical questions:

Can I keep coming up with titles with "Bill" in them?

What do the Russians, microwaves, and John W. Campbell have in common?

A LIBERTY BAZOOKA

[illegible]

What are the arguments for and against a two-volume APA? I know AEAPA & NISHAP mail in two parts, so I assume it is a common practice. (Ha-- better switch to single spacing, Skeffington; you have a lot to say.) Are we sending these mailings third class? There's not much delay, and the rates are quite a bit lower for heavy loads.

Mike B.-- I agree with Dave Levine. Will you please explain your titles such as "The Bunny's Fu Betan?" By the way, explanations of my zine titles are available for an SAS.

Fine-digit zip codes:"pinpoints your location down to a square millimeter." A slight exaggeration. If each zip code were assigned to a point on a uniform grid laid across the USA, you could be located in a region 97 meters on a side. Of course, that assumption is slightly unrealistic since few parameters follow the population density distribution as well as zip codes do. Consequently there will be squares much smaller than that in cities and much larger in remote rural areas. A fast look at an almanac shows that New York has about 600 times the nation's average population density, so in the Big Apple your zip code might pin you down to a square 25 times smaller, or four meters, on a side.

Elementary reasoning will show that there are one billion possible new zip codes. Since there are at present only a quarter of a billion people here, every man, woman, and child in the Union could be given three or four, and there would still be plenty of them left over for corporations, business establishments, and public agencies. Can anybody in this area explain this apparent stupidity? Does the Post Office expect us all to multiply fourfold soon? Will there be more mailboxes than toilets, TV sets, and automobiles combined?

The Canadian provision for experiments with amateur packet radium is one more good reason to move there. Apply for your immigration visas now. Since one of America's major parties has just nominated a pinhead stooge as its Presidential candidate, there is a chance there may be a run on Canadian citizenship applications come November. The easy way out, of course, is to marry Rence...

I think that the quality of an SF story is not as strongly coupled as you say to the quality of the science in it. But there is an unwritten rule which says that when a writer chooses

licorice bagelka--two

to deal with real science in a story, he has an obligation to get it right.

One comment of yours wasn't clear. Is a "horrendous amount of typing" a good thing or a bad thing for a high-level language?

Donna-- Actually, I enjoy just about all Niven's stuff. And Convergent Series (of The Shape of Space) holds such outstanding stories as "The Meddler" and "Mike Bangue's Ghost." "The Magic Goes Away" is good reading and has some novel twists, but is not quite as good as the earlier stories in the Warlock series, "Not Long Before the End" and "What Good Is a Glass Dagger?" (Maybe you use it for slicing and serving Chocolate-Coated Manhole Covers.)

Misha-- When I first looked at your photo I didn't notice the aircraft, and thought "Man-powered ~~RAM~~ craft crossing English Channel" referred to the rowboats in the picture. Puzzling.

Marty-- Many booths can meek Urdu into Rome.

Kevin-- In his monthly column for New Scientist (great magazine!) John Gribbin just admitted that his predictions in The Jupiter Effect were wrong. If he had only been a little more vague, and predicted a lot of seismic activity whenever the next solar maximum came along, he might have been hailed as a prophet (he says) when the spate of eruptions and quakes occurred this year. Better luck next time, John.

DeKalb is far from Chicago, but not so far from here. Perhaps I can persuade the Windyfen to meet you halfway soon. I'd like to hear some more Gordon Garb stories. How did the Anti-Martian Society get its name?

"It's when the peasant watches Charlie's Angels on the tube and then looks at his own condition that you get action." How much sense did this make, even back when it was in context? It fails to explain why there has been no massive uprising against Charlie's Angels. Keep working on your theory, though; Karl Marx had the same problem.

Kip-- Your account of the "Ravel Left Hand" is breathtaking. Re Robert Casadesus: is there a great French master of the right hand on piano?

Please note that Garb has postmailed again! Which reminds me--

Gordon-- Loved your CoA poster. And Front Panel Configuration. You probably belong back in Colorado, but nobody in the Midwest wants to see even less of you.

Colorado Video makes some neat stuff, for transmitting slow-scanned TV over phone lines and for digitizing video so a computer can look at it. I was interested to hear that Jon Singer is working there. They also provided the equipment to make the Voyager picture/sound records, free. I must meet Singer one of these days. Todd Johnson tells me he once made a jello laser.

Red-- Bat at Joe's. Is there Morse code for an apostrophe?

Anybody interested in the problem of "small" or "appropriate"(ugh!) technology for underdeveloped economies probably already knows that S.F. Schumacher's Small Is Beautiful is the Bible of the field. But Victor Papanek's Design for the Real world is an even better book. Its scope is a little more narrow, as it looks at things from a designer's point of view. But it provides a lot to think about as well as concrete examples of projects which used the principles both Papanek and Schumacher talk about.

Dick-- As long as we're proposing motions, what about a membership for married couples, so Doug and Gretchen can have two memberships in the apa, but only have to pay postage on one mailing?

Everybody seems to do so much talking about Greg Ruffa's starscape graphics that I'm afraid it may be over-anticipated. Like the movie versions of Dune, Stranger in a Strange Land, and Star Trek, it may be a real letdown when it finally appears, simply because it's been all things to all men for so long.

I have dark suspicions that the horrifying trend of using "penultimate" to mean "ultimate" has seized even you, but I will give you the benefit of the doubt this time. (Soon, kiddies, "next-to-last" will be synonymous with "last," too.)

Rolf-- If 1901 begins the century, you were born on 28 October 1957. Do you check me, sir?

Why should you need database-management when you're a Trivia Wizard? What is unusual about the title of Heinlein's new novel? Hint: the title of one of the longer Future History stories has the same property.

In "Bigger Than Worlds" Fiven mentions that Alderson has made your suggestion about double Dyson spheres. At a radius of one AU a force would attract you to the inner sphere with .6 cm/square second of acceleration, or .06% g. You would weigh an ounce for every 100 pounds of Earth weight. Of course, one could rotate the sphere to produce other forces. And planets could still orbit inside the inner shell, so you wouldn't have to give them up entirely.

Bill R.-- Don't have notes here, but about two months ago somebody finally succeeded in making an organic superconductor. Only at low temperature and high pressure, but it's a start.

Any chance this could lead to edible electronics? Foods with built-in blinkie advertising or voices? Electronic game candy?

Valli-- Actually, I preferred the ellipsis to ~~xxxxxxx~~ ~~xxxxxxx~~. The secret is probably to use a balance of techniques. Perhaps after swinging through a few more wild oscillations you'll settle down into a smooth style...Page 3: is it ever possible for "absconded" to be a transitive verb?? "blush" you have too many nice things to say about me and my music. My Ukelele thanks you from the bottom of its-- uh, well-- On roughing it: Even outside the city you can't see all the stars because so much dust sits between us and the galactic center. Next time we move into a solar system, let's not get seats behind a pillar, okay?

licorice bazooka--four

Valli(cont'd)-- I draw lotsof other things, but there is nothing quite so easy to draw as a bandersnatch. A closed curve, a smile, and a few whiskers. Most problems with proportions, perspective, and anatomy disappear. No troublesome eyes or hands or hair for the budding cartoonist to screw up.

Steve-- I still have infinite faith in your ability to talk people into giving you their electronics for nothing. I've seen you in action.

Todd discussed with me a new wrinkle in Techie-Talkies. A powerful paging system, transmitting only short bursts of code & probably on an illegal frequency, lets you know you're wanted. You hurry to the nearest bathroom, unroll your lead, and clip it to the water faucet. Now you can communicate with anybody who's on the same pipe. How does it sound? We think it just might work, provided the hotel doesn't use much PVC plumbing.

Trouble is, it's hard to design, or even to decide if the system will work, because nobody knows much about the transmission characteristics of the plumbing. We'll have to build some test gear and experiment. Tod thought we might bring our breadboards, function generators, and scopes into the Gents rooms on different floors of the Fernilab 16-story HQ building, but it looks as though the summer is running out for our heroes. Carrier current, or the ground of the outlets, are also possibilities provided there are no transformers in the wiring somewhere.

Dave L.-- As a theater techie you can answer a question. What is meant by "set dressing," and howw does it differ from set design? It's good to have folks in the apa, such as yourself and Dave Powell, whom we don't usually hear much from. ~~IIA #14X~~ ~~or, I'm glad for a chance to keep in touch with our far-flung buddies.~~

You and Kevin Dunn both have trouble thinking up names for apa-zines. Somehow I always have more than I can use. I hope you are free of the delusion that the title need have anything to do with the contents. My all-time favorite title was once in Minniapa: "Take Her Down to Sixty Feet, and Open the Screen Doors!"

There was a second edition of Fads and Fallacies in the late fifties, but Martin Gardener has not updated it since then. I suppose he has plenty else to do, but the post-Sputnik era has, if anything, produced even more silliness than ever before. Try John Sladek's The New Apocrypha.

Carl Sagan's series Cosmos will debut in the fall. From what I have seen and heard, it is not to be missed! Sagan has been

asking noises in the past few years to this effect: Educators and the media may attempt to explain scientific stuff to the general public, but they never manage to get across the fun of science. Why do scientists get deeply involved in things their neighbors can't even understand? Why do we enjoy our work? ~~Why do we do it for the sake of it?~~ Sagan at last has a chance to put his money where his mouth is, and make astronomy as goshwow and entertaining to the guy who foots the bill as it is to those of us involved in the research. You may look on this as a way of building more public support for science, but it is just as much a way of showing the poor taxpayer what he's been buying all these years.

Dave P.-- Your zine was fine reading. Gee whiz. I'd never realized there was a Romance of Welding. I guess that ties in with my comments to Dave above.

After reading your gold reclamation piece carefully, I decided not to take it up. As Captain Kangaroo used to say, "Now, boys and girls, don't you try this at home; it can be dangerous." Besides, I don't have a hood. But interesting tech nonetheless. Maybe one of us will use it in a story someday.

Doug-- Seems to me that Greg might get the computer to show a single frame of his display, snap it with the Super 8 camera, then cue the next image. It would be slow, but not nearly as slow as other forms of animation. And the scanning flutter should be averaged out over the whole screen, possibly even invisible.

Gretchen-- Doug seems like a real bargain husband if you got him for only \$1.20. Was he surplus?

Renee (again)-- Laser Books were Harlequin's venture into the SF field. Editor of the line was the dear departed Roger Elwood. Last I heard of Roger, who was once 60% of the SF market all by himself, he was editing religious and inspirational books.

South Bend had a lot of techies because it's ideally positioned to attract a maximal number of midwesterners. Two hours from Chicago and Kazoo, three or four from Milwaukee, Detroit, Lafayette, or Indianapolis, and not out of range for Ohio, Kentucky, Illinois, or Michigan fans. More makes a con than location alone, but the South Benders have a good chance of drawing from everywhere if they can convince us we'll enjoy the con.

I would like to know if anybody else has special feelings about our Place in Fandom as you describe it. What, exactly, is the definition of Anti-Fan?

Greg-- Your contribution was even better than usual, with fine cartoons and some of the most outrageous puns I've come across in a long time. Requiescat in pacer, indeed! Count me in on the Walking Tour, and even perhaps (gulp) the Economic Suicide Squad. How about Thursday? I will be on the Piedmont Fannish Hopscotch Special from Chicago to Boston Wednesday afternoon along with Angel Insley, Alex and Phyllis Eisenstein, Bill Leininger, Mike Bentley, and others. Late word is that Alice has dropped out and will not attend the Worldcon. Damn.

I am insanely jealous of your serif hand-lettering, as I can barely scrawl W. Skeffington Higgins.

I can't take it any longer. What's Cssa-on-Pelion?

licorice bazooka--six

Grag(cont'd)-- The Whatcon trivia contest was okay, but the fact that it had been prepared in a rush certainly showed. Against that disadvantage was the fact that you and John Nine, et al., are just about the best question-writing team I've run across, as last year's contest established. I prefer the Jeopardy format myself, but there is the disadvantage of concentrating five questions on a single topic. The College Bowl version has a chance to be a little more fair. Certainly three separate filksong categories were excessive, or perhaps ludicrous when it developed that none of the trivia contestants had attended the filksing the night before, from which all the questions were drawn.

You guys introduced a deadly category in which it was nearly impossible to provide the correct answer, but which was great fun for the MC and spectators. I refer, of course, to "Close, But No Cigar." The gimmick is to ask for the author of an obscure book whose title is almost like that of a very well-known book. CONTESTANT: "Close, but No Cigar" for ten, please.

MC (with a sinister leer): I'll give you the title of a novel, and you tell me the author. (heh,heh) The Black Star.

CONTESTANT: Um... The Black Star Passes was written by John A. Campbell, Jr.

AUDIENCE(in malicious glee): CLOSE,BUT NO CIGAR!!
Horrible.

Jamie-- You sure cram a lot into two pages of minac. I suppose the reducing Xerox helps a lot. Star Blazers replaced Thunderbirds and Stingray in the 0630 time slot, as it happens, though I haven't gotten up to watch it too many times. I agree with your comments about the series. The artwork is pretty nice, and just what space opera ought to look like. However, I expected the animations to be better than it is; the quality of the motion is not much better than Saturday Morning standard.

Another decent animated series that has turned up is Flash Gordon on Saturday. Much of it looks like any other cartoon, but every few minutes there's a sequence which causes me to sit up straight and stare at the TV in amazement. At least some of their spaceship scenes must be traced from films of models; the camera POV moves independently of the ship, a la Star Wars. (Tracing cartoon images from photographed film is what Bakshi did in Lord of the Rings. I know it's not the same as roto-scoping, which is adding drawn images to photographs, but can anybody tell me the name of the process?) Spaceship exhausts seem to be airbrushed or something, an effect one sees nowhere else, and there are some backdrops which show great detail. I haven't seen ships or sets this good-looking since Space Angel. The credits list fifty or sixty animators as well as other artists.

The HIT mass driver was, I think, four meters long; the Nova film shows it being demonstrated in a small auditorium. "They Don't Write 'On Like That...Yet" is sharply Xeroxed, and full of Mary Lynn's superb graphics. It also contains a lot of songs which never found their way into many other collections. But Mary Lynn only ran off a hundred copies, at great personal expense. I think they're all gone now. I will show you my copy at Xereascon, and maybe we can lend you one. I'd like to talk Jeff Duntemann into running off a bunch more, which I'm sure could be sold for a couple of bucks apiece, but there has been no action as yet.

Z919Z was always Tom Krabacher's favorite idea for a vanity license plate. Too bad it's taken-- but wait; Krabacher vanished

into the California wilderness a couple of years ago! Could this indeed be his plate? And didn't he move to San Diego?? Maybe, Jamie, you ought to investigate.

Greg will doubtless answer your starlight question in more detail, but you should remember that the eye is looking at a "slice" of wavelengths in the (more-or-less) black-body spectrum of a star, which is pretty broad, and in general pretty bright over a larger region of wavelengths than the eye picks up. So Doppler-shifted light from outside the visible spectrum would indeed tend to make a star more white and less pronounced in color, as you surmised. This is only one of the factors Greg had to take into account in his famous program. (Greg: Bring your disc to Boston. Maybe we can find an Apple around the con or even visit a friendly computer store which might allow you to run it.)

"Fnord" comes from the highly overrated Illuminatus Trilogy by Shea and Wilson. (For much better literary paranoia, read Pynchon's Gravity's Rainbow. Start on page 200 if you like, as the first part is a little dull.) In every grade school in America, a man comes into the reading class one day with a little spiral wheel. The pupils are hypnotized and conditioned not to see the word "fnord" when it appears in text, but to get a vaguely uneasy feeling whenever it's encountered. Now, newspaper and magazine text is full of interspersed fnords, but advertising copy is free of them. So reading the text makes you uncomfortable without knowing why, but the ads seem warm and friendly by comparison. Individuals who join the secret underground conspiracies to liberate us all from the Secret Underground Rockefeller Conspiracy which runs the world try hard to break the compulsion, and it is a great day for a new member when he is at last able to "see the fnords."

This led me once to invent an invisibility suit: a T-shirt with the word "Fnord" lettered on it.

Six and a half pages of MC's. Soon I will have to start restricting my mailing comments, or writing this zine will become a full-time job.

I've been spending time lately getting involved in brief obsessions, like figuring out how to make a string of red/green bipolar LED's run through the entire spectrum, working out numbers for the physics in Jeff Duntemann's latest story, or investigating the consequences of neutrino oscillations. But I won't go into detail on that stuff here. Corner me at a con if you want to know... Don't forget the Techie Town Meeting at Norcascon, two PM Saturday. We have at least an hour, and may be able to get more, in one of the function rooms. Furthermore, the usual Thursday Night Meeting of Chicago fandom will be held in Jerry Corrigan's suite in the Sheraton. "Egg of the Phoenix and Friends" will again be competing in the Trivia Bowl.

I recently dredged up a fascinating paper by Freeman Dyson, "World without End: Physics and Biology in an open Universe." It's from Reviews of Modern Physics, vol. 51, p. 447, the July 1979 issue. Seems Dyson got riled when he read his buddy Steve Weinberg's book The First Three Minutes. I think it was Doug Hofstadter who described it as "an account of a brief but influential period in the history of the universe." (Weinberg got the Nobel Prize in physics this year, for a

field theory unifying electromagnetism and the weak nuclear force. Two down, two to go.) Dyson says, "He takes 150 pages to describe the first three minutes, and then dismisses the whole future in five pages....his view of the future: 'The more the universe seems comprehensible, the more it also seems pointless.'" Dyson, a born optimist, takes exception, arguing that the existence of life and intelligence cannot be discounted in discussing the future of the universe. He proposes to make eschatology, the study of the far future or the end of all things, a respectable branch of physics as well as theology.

He discusses three questions and gives tentative answers; "(1) Does the universe freeze into a state of permanent physical quiescence as it expands and cools? (no.) (2) Is it possible for life and intelligence to survive indefinitely? (Yes.) (3) Is it possible to maintain communication and transmit information across the constantly expanding distance between galaxies? (Maybe.)" If Dyson's conclusions are correct, "no matter how far we go into the future, there will always be new things happening, new information coming in, new worlds to explore, a constantly expanding ~~new~~ domain of life, consciousness, and memory." Goshwow! I wish I had more space to discuss this.

I wish I had more space to discuss the paper and the neat calculations Dyson makes. I shall try to hit the high spots. He ~~xxx~~ figures the average length of time for certain classes of phenomena to occur, using the physics known about each process. For instance, even after all the stars and planets are pretty cold, in about 10^{14} years, their atoms can occasionally move from place to place by the "tunneling" permitted by quantum mechanics. So even solid matter at nearly absolute zero behaves like a liquid if seen in sufficiently "slow motion;" the probabilities and rates for this can be calculated. The upshot is that after 10^{64} years, all solid objects will tend to become smooth and round and spherical. By similar methods, all nuclear matter could become iron, since iron-56 is the lowest-energy state for a collection of nucleons. Much later, the iron stars might decide to become neutron stars. Or they could spontaneously collapse to black holes. But even very massive black holes have a finite lifetime because all black holes "evaporate," throwing off elementary particles. Their fireworks will grace the skies for eons to come.

In biology, Dyson shows that if you can "rebuild" your body to suit changing conditions-- e.g., mapping your consciousness onto a Josephson-junction computer for a cold universe-- you can survive a long time, but not forever. Unless you have a way of hibernating, slowing down to preserve a high rate of energy use, occasionally, in a very cold environment. Then it is possible to survive indefinitely, with an infinite subjective time, using a finite amount of energy.

Take a look at the paper. Most of the math will go over your head if you're not some kind of physicist, but there's a lot of plain English in there, too. And everyone should be aware that Dyson's autobiography, Disturbing the Universe, which Valli has plugged in these pages, is excellent and eminently readable.

This flaw is the time relationships after the plot splits between Han and the Falcon and Luke on Dagobah. The entire chase of the Falcon, from liftoff to when they take off after the Imperial Fleet drops its garbage, would seem to take several hours at most. The same time could not possibly cover the events-- Luke's arrival on Dagobah, his meeting with Yoda and the beginning of his training--that occur in Luke's area of emphasis. I thought they might be playing around with relativity's effect on dual narrative film form, but--naahh, I doubt it.

Otherwise, I thought the film worked. Of course, it isn't a film in and of itself. It's a connecting piece between a strong trilogy opener and (hopefully) a strong trilogy finish. In terms of structure, this could almost have been expected. In pre-planned trilogies, the middle piece is generally the weakest.

And if Empire is the weakest piece in the project, I will be quite satisfied.

SATURN AND OTHER SPACE THINGS DEPT--Voyager One will reach Saturn in November of this year. Don't think that we won't see anything from it until then, though. It has already returned images of the Ringed Planet that have better detail of the planet's banding than Pioneer Saturn returned last year.

By Worldcon time we should have in our grubby little hands breathtaking images that scientists won't even be bothering with-- they'll have no need, since information with 10 times the quality will be coming along in the next couple of months.

What a wonderful world we live in, and what wonderful times!

Unfortunately, not all the news is that good. The space shuttle is pulling the same old trick--it will be June of next year before that gets off the ground. It seems the tiles are now being considered a structural member of the spacecraft, and about 5,000 of them have to be pulled off and densified, then re-installed. There have also been problems with the software in the operating computer system that will delay its acceptance.

The Soviets, however, aren't sitting on their thumbs. They have again re-occupied Salyut 6, which was launched more than three years ago. Its original lifetime was only a year, but they've been continually fixing and patching. They have the capability to constantly man the station. The next Salyut they send up will be permanently manned, with crews up for six month tours of duty.

And that's not all. The Soyuz manned spacecraft has been re-designed, replacing the old metal-drum sequencers with a digital computer, adding solar panels and a much-improved engine system. This Soyuz-T was flown to a successful rendezvous with Salyut 6, fully manned, a couple of weeks ago. It docked on the same day it was launched.

No Soyuz has ever been able to effect a first-day rendezvous with a Salyut. The propulsion system has been vastly improved.

And that's still not all. There is currently undergoing drop-tests a Soviet version of the Dyna-Soar, a small, two- or three-man spacecraft built to fly back to a runway like a small glider. It will be launched on top of an expendable booster and can't carry much payload into orbit with it, but it's a damn fine way to resupply large earth-orbiting manned stations.

And if that wasn't enough, the Soviets aren't satisfied with the Salyut, either! They have a booster larger than the Saturn 5, with a liftoff thrust on the order of 10 million pounds of thrust, that they've been working on since the late 60s. It would have launched their lunar lander.

Problem is, it exploded on the pad once, killing a lot of people.

The Soviets feel they now have a handle on what went wrong, and have developed techniques to work around the problems. So, by 1985, they will have this monster available for flight.

According to best American analysis, by 1987 the Soviet Union will have permanently manned 12-man-crew orbital stations. By the end of the decade they will have made their own manned moon landings, and may try a landing on Mars (manned, of course) before the end of the century.

Face it, they have the experience of men in space for up to six months, they will have permanently manned space stations and they will have experience in interplanetary flight--to the moon. Mars doesn't seem very unlikely at all.

If anything will get this country off its ass and into space, the fact of a permanently manned Soviet space station just might.

I hope.

I pray.

I can't think of anything else to harp on at the moment. If I do, I will put it after my--

MAILING COMMENTS,

in which I will tell everyone exactly what I think of them.

Well, maybe.

ANNIVERSARY CARD: Thanks for the stapler! I haven't had to restaple this thing yet. Also, believe it or not, I appreciate the charts and graphs. They're neat, and give everyone a good idea of who slaves all day over a typewriter and who slaves all night trying to get something in on deadline.

I really find the growth of this publication impressive. Only a year, and a copy-count of over 100? Pretty damn good. Give yourself an ovation, Renee.

Also, try and keep the indexing going. That is really handy, and tells me where to find what in my back issues.

Speaking of which, I never have gotten a hold of a copy of the first issue. Got one you could send me? It's not a burning desire, but it would be nice (and it appeals to my sense of completeness).

MU BETAN: Good inside con report. I wondered about that blond guy. He looked a little funny to me--you know, dressed neat, scowl on his face, disapproving look. Purest mundane I've ever spotted.

Air raid sirens? Air raid sirens? What is it? Tornadoes? Russians? Norwegians?

Mike, being one of those who glows in the dark doesn't make you an expert on it, though I agree with your analysis. I have always been near-indistinguishable, even in a brightly-lit room, though, so I guess all my observations on this would be from the outside looking in.

Comment--the Diablo gives a lot more readable copy than what you were using.

SEE ME, FEEL ME: Now, Donna, don't sound so defensive. I've not seen anything in this publication about anyone's personal life (at least, as far as relationships go). But those of us who care about you will tell you if we think you're making mistakes, and congratulate you if we think you're doing fine. But in person. Not in APA-Tech. Keep in mind your opening paragraphs could sound like, "I don't care what anyone says, I'll do as I please, and I don't care if you wanted to know about it or not." Tell people to bug off often enough, they will, and you'll be all alone.

Above not meant to be nasty or anything, just how I feel.

Remember, you are always welcome at the Sunday Night Supper Club. Why don't you drop by more often, so your appearance would stop warranting its special guest status and we could see you more often?

Sounds like Minicon was pretty good--I'll have to get back there again some time.

YAAITSS: Thanks muchly muchly for all the local Houston space coverage. You may be sure that no one appreciates it more than I.

INCORRECT THOUGHTS: Welcome, Marty, nice to see you aboard.

I haven't seen either film, but, from your description, I would say you had an interesting time.

Marty, remember that when I say "there seems to be a trend" or something like that, I refer only to a phenomenon that has happened enough or to a great enough degree around me to comment on it. This doesn't mean that everyone in a similar situation is bound into my generalizations. Besides, I tend to throw that kind of thing into a 'zine as a comment hook, so just take it for what it's worth, not a great piece of my philosophy. Great pieces of my philosophy will be on sale in the lobby as you leave.

DR. GONZO'S: You know, Valli, your style is beginning to overrun your content. It seems like I read your Minicon report before, but it was on Hoosiercon, or Wiscon, or something. Is it that you have about the same kind of time at every convention, or are conventions getting to be all the same? I wonder. It is a question worth studying.

I enjoyed your review of The Right Stuff, but I think Tom Wolfe is bad for you...you started to wander around...will this kind of writing never end...I think stream-of-consciousness is all right every now and then, but...and, if things don't cool down in this basement, I'm going to have to go and get my fan...

See what I mean? Valli, you know I love you, but stream-of-consciousness can be hard to cull facts from, you know?

JUPITER EFFECT: Hello from a former DeKalbian. I and my then-fiance, now wife, Gretchen, used to live a few short blocks from where you are, at 809 Edgebrook. That's the apartment building that burned to the ground a couple of years ago. That was also only a few months after we had graduated and bid DeKalb goodbye forever.

Regarding the Oz books, you should talk to one Jerry Corrigan, a techie who should be joining GT pretty soon. He has every one

of them, though I'm not sure, and have heard a lot about the books from him.

Did you hear about the silly thesis someone wrote on the Oz books? Seems someone went through them and concluded Baum was a political agitator and that everything in the Oz books was a thinly veiled satire on the times. The Emerald City was originally the Silver City, you see, and that symbolized the two-metal economy debates, and the Wizard was really William Jennings Bryan--or was it William McKinley--and Dorothy was one of the downtrodden working class, and her attempts to get back home was symbolic of the beginning of the labor movement.....

Like I said, a silly thesis. Baum wrote down in some detail why he wrote the books--when he was young, he had a huge back yard to play in (acres and acres) and played imaginary games with imaginary creatures, like Scarecrows and Tin Woodsmen. He was a sickly child and wasn't allowed to play with other children.

Baum enjoyed his imaginings so much that when he grew up, into a frail young man, he wrote them down for other children to enjoy. I believe he died young, being so physically weak.

As for Patchwork Girl, I thought it wasn't too bad, but lacked some of the dynamic movement of earlier Gil the Arm stories. Maybe all those insipid drawings (Gil in a cute little uniform with ARM written on the shoulder) slowed me down. Maybe the large print and the whole feeling of "For ages 5 through 12" of the book made me feel it wasn't up to some of Niven's other works.

I'll wait and read it in a regular paperback format and see.

In general, I enjoy the fact that someone in this thing is actually reading and commenting on sf. I may even start.

And this is my only comment on the colonization question: yes, I do not think it would be worth it for humans to establish colonies if they don't have cheap enough space travel to set them up right. Taking a giant step backward is the same, whether you are in orbit around Sol or Aldebaran.

KWIP: I don't mind the anecdote at all. That kind of thing happens to me all the time. In fact, a few weeks ago, after the third eruption of Mt. St. Helen, a local radio newsreader was trying to say that ash and pumice had been strewn over tens of square miles of Washington State. What he said was, and I quote: "Ash and pumas were thrown over hundreds of miles from the mountain."

I've heard of the problems Portland was having with ash, but vicious, wild pumas falling from the skies? It makes one glad the 1981 Worldcon will be in Denver, not Seattle.

Hey, I thought you had a swell zine this time, too!

TRANSPORTER TOPICS: A guy was pulled over for speeding a while back, and as the cop was approaching him, he flipped out his wallet, flipped it open and spoke into it, saying, "Scotty, beam me out of here, now!"

Sorry, Rod. I just saw the title and was reminded of that story.

I like your idea for a basis for an sf series. I think it's a bit unlikely, since a lot of coastal or once-coastal artifacts have been found. There wouldn't have been enough time for total obliteration of artifacts from your neandrethel civilization.

Also, it assumes the correctness of your earlier theory that, at some point, a world-encircling cloud belt had hidden the stars from man and blocked out vast amounts of radiation from the sun and space. The biological records left in fossils and preserved biological material disagree strongly with this theory.

Re yr ct about the Chinese and their backyard iron works--yes, this was tried in China in the mid-sixties. It was abandoned when the pig iron that resulted was completely worthless, due to impurities that crept in when unskilled was given responsibility over a process that needs skilled supervision. So much for "my dad has a barn--let's put on a foundry!"

SMITH'S CORONA: I don't mind that it ain't typeset, and you know that, if you like, you can come on over and use the community typer if you like.

Did you notice how my proposal and your proposal on the grace period were almost identical? I guess great minds do think alike.

As for the Hugos, I do what I always do--I vote as well as I can, not having read most of the nominated stories. As a result, I don't vote for a lot of the categories. I'm just not into the magazine sf scene.

At a Sunday night a while back, we came up with the idea that the amateur or fan artist category isn't very well defined, since you end up with cartoonists like Foglio competing against artists like Joan Hanke Woods. Mind you, I have nothing against cartoonists, and many are also good artists in their own right. But, wouldn't it be a better idea to have two fan artist categories? One for strict art, like Steven Vincent Johnson's work, and another for cartoonists, like Cloutier and Foglio? It makes sense to me. Let's see if we can stuff the business meeting at Noreascon and get this instituted in the WSFS constitution.

THIS SPACE FOR RENT: Yeah, but Salyut 6 is in the high-rent district! And I can't even speak the language!

Each question you have for stories is good, but I think this is getting a little overboard into the "classify everything" syndrome. I will remember what a story is about, generally. I don't have to refer to a computer print-out. And if I haven't read the book, I would be far more interested in how the story is written, not where it is set, or what plot devices are involved.

One of the problems with a world completely without gravity (or, at least, where gravity is negligible) is people may not get enough exercise. Asimov had a story in his magazine about this an ish or two ago, which I recommend.

OVERDUE BILLS: Another Bill in this APA? Oh, well. I guess it was to be expected.

Not being a hardware oriented type person, most of the 'zine went over my head. But I will say that the Diablo is easier to read when not reduded.

DR. GONZO'S AGAIN: I'm sorry if I came down on you a bit hard on that last 'zine, Valli, but that was last night and I was tired.

Thanks, thanks, thanks for the plugs for Gretchen's sewing abilities. We're thinking about getting her business cards soon.

You should have known that this wouldn't come out before the Semi-Pro ran. For the same reason, I'm not mentioning the berserker we have planned for the first weekend in August. This may even be collated there or something, I don't know.

The ranquet must have been at the same place it was last year, the Old Worthington Inn. That place was great, with the waiters telling us the leprechauns could go into the dining room now.

Sorry you couldn't get Gerald Hokagan. Maybe next time.

What do you mean, you refuse to write me two comments!? I'm writing you two comments! Of all the--well, I never.....

SINGULARITY: Where the hell you been, Steve? I don't think you've been in the APA since I joined it.

All good wishes on your new position. I know from experience that major career decisions are very hard to make and easy to regret later. Just stick with it.

Sorry I couldn't make it to the wedding, but we just don't have the money. I'm writing this beforehand, but I'm sure everyone had a good time.

Why do I get this feeling that I only got part of your 'zine? Is it because you trail off in the middle of an mc to me? Is it because I can't stand the thought that anyone would just trail off when talking to me.....

UNCLE DAVE'S: Please put your name on your next 'zine, Dave. I had to figure out who wrote this by a process of elimination.

Yes, everyone in Empire can weld. But, then again, this isn't exactly a representation of society at large. Although seeing the Princess with a small plasma welder in her hand did surprise me. She seems more the type to be raised by living protectors (droids not being good enough for the royalty) and protected from all kinds of menial labor.

THE ANSWER IS AUSTAUSCH: You know very well that the rest of your life is interesting! You're always being too self-deprecatory.

I won't tell anyone how you get me in a newspaper ad if you won't.

Yes, Tarot cards do not foster dangerous anti-science feelings, at least not when I have seen them used. Phyllis Eisenstein is pretty good at them, and I don't believe she is anti-science or anti-thought or anti-rationality. It seems to me that Jamie Hanrahan is just looking for something to be upset about within fandom. I don't know why. There are so many things to be upset about outside of fandom.

TAKES A LICKIN': I was very disappointed in Black Hole, but not as virulently as you were. Then, I wasn't in a virulent mood when I saw it--I had only been out of work for a couple of weeks.

I still maintain that if every outer form of civilization must be changed to accommodate new ideas and customs, we will all be so busy changing outer forms, we will stop changing ideas and customs.

What you are lacking in your vocabulary, Renee, is one word: INTERPRETATION. You can't tell me how I interpret our language. When I say that the word chairman implies no gender to me, you may agree or disagree that it implies no gender to you. You may not tell me that it cannot help but imply gender. In context, it does not. How many people know what the words we use originally meant? We learn them in the context of the society we grow up in. If that society is sexist, the language will take on a sexist connotation. If the society is not sexist, it won't.

For instance, the word "boob" comes from an alliterative attempt to describe what a baby sounds like when it is suckling. Yet this word is pointed to by "feminists" as an example of our sexist language. Take a look in the New Collegiate Dictionary some time and find out what all these sexist words mean.

The entire language was developed when women were not thought of as human beings. Yet we can communicate with it without being hamstrung. Remember, Madame Chairman is no more unusual, in the context of today's language, than the phrase "a woman's soul" was in the middle ages. They would both describe impossible, contradictory situations.

I interpret the word "mailman" to mean, roughly, mail carrier. A lady mailman isn't incongruous, and would be less incongruous if there were more of them. Calling them "mailpersons" isn't going to result in more female mail carriers.

And no, if the Supreme Court would interpret the Constitution properly, there would have been no need for those amendments, other than to repeal the three-fifths rule regarding slaves and population counts. These were passed to make sure that future interpretations of the basic rights granted citizens would not change, no matter how the customs and mores of the country changed. Indeed, they were the attempt of a more-or-less liberal North to force customs to change in the South.

And they didn't work very well.

Remember, language changes to reflect changing ideas and attitudes in a society. Changing language does not change the attitudes, just as painting your skin pink will not change the fact that the limb is gangrenous. And it's a silly notion that changing the language will change the attitudes. Attitude changes come first, and that takes a lot more work than fooling with the dictionaries and the first grade primers.

BRICK SYNCHROTRON: Yes, Bill, you have been a little nasty in this 'zine. But, then again, I'm being a bit nasty in this one, so, no one's perfect.

Don't let anyone make you feel sheepish about liking Nicholas Meyer. He has a fine talent, in my mind, no matter what Kip says, and his first film was better than much of what is ground out of the Hollywood mill these days.

Operation Rathole sounds fine, but I would still be worried about flight clearances in Meigs' landing pattern. You can't file a detailed flight plan for skywriting--you have to zoom around as much as is necessary to get everything written.

I've thought of a couple more things to say, so now, after the mailing comments, back to my own inspirations.

SPACE OPERA, ET AL--There are a couple of books out that I would recommend to those into space opera. They are Brian Daley's "Han Solo at Star's End" and "Han Solo's Revenge." They do have some connection to some movie that was released a few years back.

Both of the books present Solo as a penultimate swashbuckling hero, masquerading under that mercenary exterior. They are imaginative, the action is very easily visualizable (is that a word?) and the stories are loaded with comic relief.

You get the feeling that this is the lighter side of what Lucas was thinking of when he started the Star Wars series. Han Solo's adventures never alter the destiny of the universe. They're just fun to read.

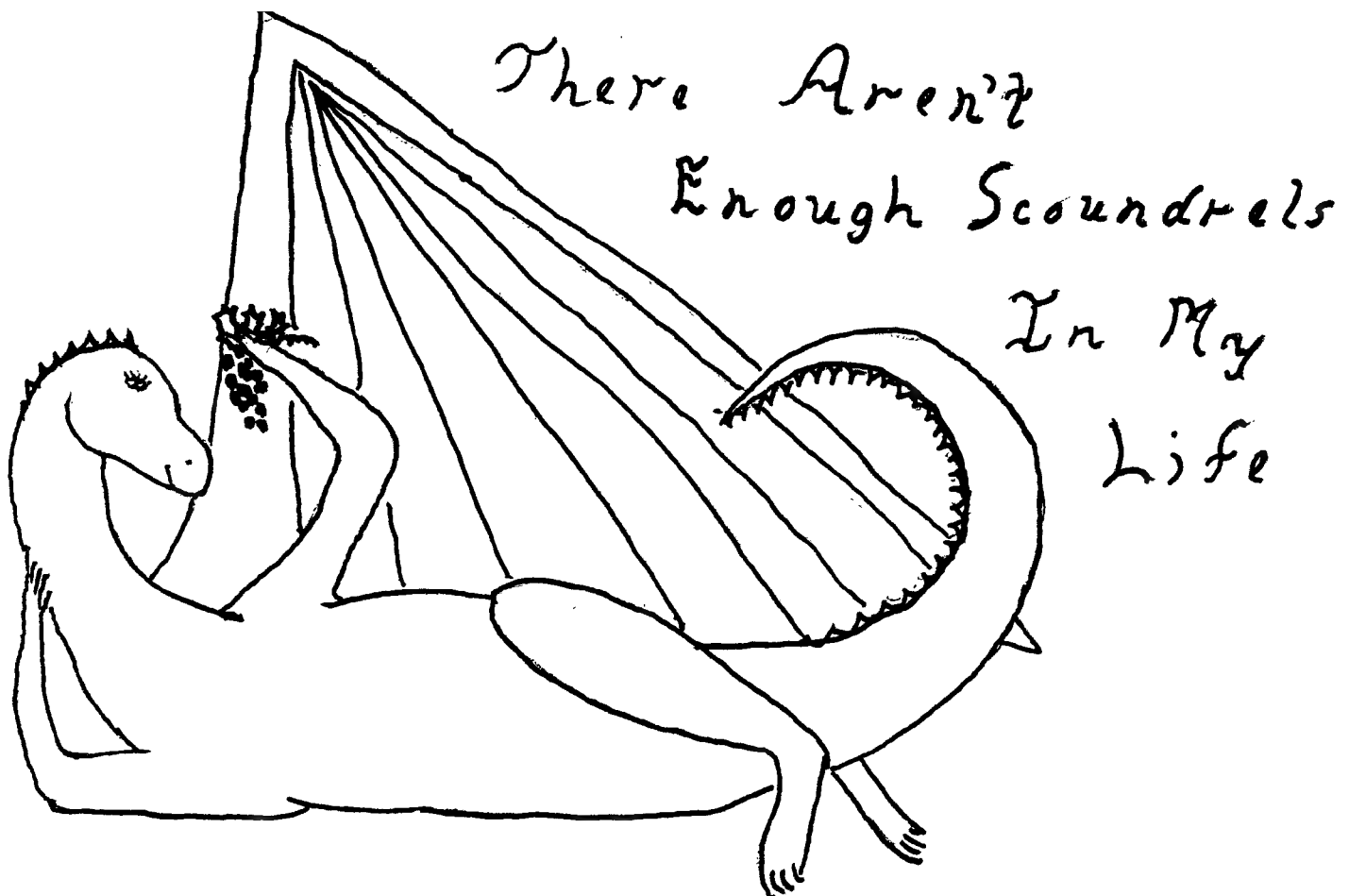
And, actually, they're a lot easier to take than the Skylark or Lensman type of space opera, since the technology is at least a little closer to being accurate. This last book even mentions how Solo had to repair some of the Falcon's circuits with fluidics, because the planet he took repairs on had developed charged particle beams before developing technology to shield circuitry. They therefore highly developed fluidic technology. It may sound out-of-place in Star Wars, but in Daley's Han Solo universe, it just adds a little bit of scientific versimilitude.

Speaking of space opera, are there any other John Williams fans out there? I have come to admire the man and his music, and love nothing more than to loaf around listening to one of his scores. I don't wish to bore people in the APA who don't like Williams, but, given a little encouragement, I could present views and insights on his works in future issues.

I would also like to register a protest. The Millenium Falcon has been modified drastically between Star Wars and Empire, and my Falcon model is now not very representative of what I can go see in the theaters. Is this something they did on purpose ("I've made a few special modifications" etc.) or just an example of bad continuity? I wonder.

Also on Empire, I believe it was Dave Levine who said there were no written English words anywhere in Empire. This is true. But there were at least two words in English written on the screen in Star Wars. Trivia question: What were they? (This does not include titles or the rolling "It is a time of great civil war...")

Since I seem to have run out of things to say, I may include a cover or a back cover for my zine, or something. Maybe just an illo. Or maybe I'll think of something to say in a few weeks, and will come back to it. But, if I don't, take care all and see you at Noreascon!



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Since last issue I have been informed by the ever-useful Bill L. that Austausch means barter or exchange. This seems quite reasonable given its applications to climatology. It still makes an appropriate 'sine title, as it is an exchange of information.

Doug laughs at my style of writing. I use Patented Plug-In Paragraphs. I write in chunks. When I get enough chunks to cover the subject I arrange them 'till they sound right. It is hard to use an outline this way, but it has gotten me through plenty of term papers.

I use this as an explanation of the apparent disjointedness of my written work. Unfortunately, I have no such excuse for the disjointedness of my spoken words.

AND NOW, A MESSAGE FROM MY SPONSOR.

ANOUNCING (DADADADA TA DA!!):

* ERIDANI NEEDLEWORKS *
* Creatures and Costumes *

Things at work have been going downhill for a long time now. Rumors are rampant that come September the store will close. For Good. It is now time to turn my hobby into a bit of supplementary income. I realize that most of my cohorts in this

prestigious publication aren't into such things, but I hope I can count on a bit of free advertising, should the occasion arise.

POP CORNER: Last Sunday night, on the spur of the moment, Doug and I went out to see Battle Beyond the Stars. For \$1.75, it wasn't bad. As a matter of fact, for \$1.75 it was pretty enjoyable.

In the same way that 1941 took a lot of its humor from old movie parodies, there is a lot to recognize in BBTS. Just about every recent SF movie had its ship represented.

(One notable exception was the Enterprize, but the Klingon music tended to permeate.)

I recognized a reference to Fantastic Planet, but Doug says it's just a coincidence. We have Barbarella in an X-wing. We have George Peppard doing a marvelous Darren McGavin. And for all you fans of Lost In Space, we even have Marta Kristen. 'Member her?

John-boy Walton actually acts. (His love interest, unfortunately, does not.) His ship, Nell, is about the best actress in the whole movie, and her voice reminds me of Rosie the Robot Maid in the Jetsons.

The most outstanding element for me were the pangs of conscience that hit Our Hero when faced with his first space battle. His ethics refused to allow him to shoot from behind. Nell takes over and saves the day.

The effects were surprisingly good. No wires! Few matte lines! But then, they didn't try anything too ambitious. The plot, of course, is a classic, the Seven Samurai. The script is pretty good. I'd say at times even better than StarWars and Empire. The dialogue is more natural and engages in the sort of exchanges that are so dear to my heart.

It is not, however, a Great Movie. It had lots of weak points. John Saxon was not just a poor villain, he was an unconvincing one. (But then, I've never liked John Saxon.)

And I maintain that Robert Vaughan was cast only because of his association with a former character name of his--Solo.

The non-effects sequences were poorly edited.

And the ending. The ending just, sort of, well, you know, it ended. Just like that. The Good Guys won, and it ended.

Oh well.

There is a bit of skin, some sexual references and a few words that my mother wouldn't approve of. But nothing that you wouldn't hear in a fairly normal conversation. If you can find it for \$1.75, by all means go see it.

I find there is a phenomenon that shows up in SF that tends to go against much of what I have learned about planetary systems. It disturbs me that so many of the planets in the literature tend to be homogeneous.

Tatooine is one big desert and Hoth is one big ball of ice.

Such climatic systems could not support themselves. By nature, circulation is the name of the game. The systems as presented above do not lend themselves to circulation.

I shouldn't pick on StarWarz so much. After all, it is science fiction for mundanes, by mundanes. But real SF does the same thing at times.

I think that I am even more disturbed by the preponderance of culturally homogeneous planets and systems. I refuse to believe that intelligent creatures will ever get so boring as to have one language and one government. (Unless that one is keeping hold by force.)

MAILING COMMENTS: are hard. Or am I just dull? Do people get hurt when you don't say anything about/to them? The deadline approaches and I can't agonize over this any longer. From here on out, unless I say something specific, I read the whole thing several times and enjoyed it all. Be patient with me. I'm new at this.

Mu(it's Greek to me)Beta:

Similar to the Glow-in-the-Dark index is something that I call a Sparkling Personality. Unfortunately, all the sparkle tends to hide an empty interior. These types get the attention that they are seeking and have no impetus to fill the void.

Transporter Topics: Would an Ice Age really last long enough to get Neandrethals into space?

-.-. --- -. --- -. -- --- ... --- -. ---. --- ...
- -

Dear Dr. Gonzo: Where do you get those strange pictures? Thanks loads for the plug. As you may have noted above, it is greatly appreciated.

Lazergram: All I can say is, I've been called worse.

Uncle Dave: I had a ham license, once. To my mind a pilot's license is a lot more interesting. I'm glad to see that there is new blood coming into this organization. We won't be taken over by computer junkies.

I won't say anything about not identifying yourself in your 'zine, as I'm sure everyone else already has.

TALAKOT: I must heartily disagree with your choice for the Best Novel Hugo. Titan has one big problem that removes it from the running to my mind. You can't justify a piece of literature like that with "because I felt like it." So little of what

went on was well explained or motivated that I felt cheated at the end. Even if it is the beginning of a series, and everything will be fulfilled in later books, Titan is not complete. You can't give an award on the promise that the rest will come later. Like you said, good writers don't deserve awards for bad or incomplete books.

Brick Synchrotron: Some of us just plain can't spell. It isn't a matter of not trying. We just can't keep the letters straight. And it isn't a matter of not looking things up. Most of the time, when I misspell a word, it isn't that I didn't know how to spell it so I just put anything down. I honestly didn't know that I didn't know. Always looking for a scapegoat, I am apt to to blame it on the school systems. Never once in my entire eight years of grammar school was I asked why I did so poorly in spelling. I consistently got d's and f's. I'm not sure that I could have put into words what the problem was but it would have been nice to be asked. In fifth grade I had a teacher who consistently took points off my math tests because I made the letters backwards in the matching column. She never asked why I did it. I suppose she thought that I was just being perverse. I finally learned to make them different from how I saw them. I guess that Rod and I are just stuck with it. I have gotten around the problem to a certain extent by marrying someone who can spell. "Do you promise to love, honor and proofread?"

Well, that would appear to be about it. How'm I doing?

NOTES:

Hold on to your head coverings, folks! Direct from the Better Late Than Never Dept. of Half-Baked Ideas Publications comes my feeble attempt at restoring continuity to my scribblings for this apa. That's right, it's---

DOUBLE ISSUE TIME!

TALES FROM THE

CHARMED SEA # 7

(the last)

from:

Chambana, Ill.
The U of I
Fermilab

by

KEITH THORNE

FANCHILD IN THE

PROMISED LAND # 1

(the first)

to:

Los Angeles, Ca.
Hughes Aircraft Co.

For those whose wish to know my current whereabouts, scan the page below:

(Home) 2608 Vanderbilt Ln. Apt.C
Redondo Beach, Ca. 90278

(213) 372-9183

(Work) Hughes Aircraft Co.
6/E182
Centinela and Teale
Culver City, Ca. 90230

(213) 391-0711 x21571

Now I know you are all wondering what I am doing in the sun,surf and smog capital of the US, but before I reveal all the juicy,sordid details I will perform my duty and do two sets of mailing comments all rolled into one. (Note: This also allows those who could care less about my details to get what's important, their egoscanning, done and move on to the next zine)

MAILING HAILINGS (for APATECH #6)

Cover- Nice job, Greg! But then I have come to expect nothing less than the best from you.

555 Times - Despite the expense, the stapler is a needed tool. Of course, I also just took out all my staples to punch and bind my Apatech collection, so they are only temporary for me.

Greg - You go east and I go west and ne'er the twain shall meet! Just a few short months ago, you were just across town. Now you are across the continent. When we will see each other again only Finagle knows. As for Brave New World, I did read Aldous Huxley's original in high school, and it was at least as moralistic and heavy-handed as the movie. This made it usable by your usual 10th grade English class. The TV movie got the Shakespeare right, but the actors overdid the camp, especially the child-like simplicity of the actions.

Donna - You definitely have more chutzpah when it comes to zine titles than I do. If I were you, though, I would stop worrying about your intended/current/desired image and let your actions and words define it. People who only look superficially to judge a person deserve the wrong impressions that they get. Thanks again for the expression

of support. No, I don't regret advising you. (More! More! I'm still not satisfied!) I know another set of sisters with a similar situation. The elder has brown eyes, brown hair while the younger one is taller, blond and blue-eyed. The interesting thing is that the brown-eyed one is named Bleue, while her sister is named Mingo. Glad to offer the assistance.

Bill L. - RAEBNC except that somehow I missed the entire flu season. Disgustin', ain't it.

Kip - Welcome to the apa! How refreshing, a writer who refuses to prostrate himself before the mechanical straitjacket of the mind.

R. E. Smith - I'm afraid that I have seen that "Qualifying Examination" a number of times before. I wonder what the original source is. Note how the author dates it by reference to an (IBM) 1130 CPU, an early-sixties machine if I'm not mistaken.

Michael - Congrats on the new stereo and computer. Me, I'm only in hock for a new car (and to my father for the downpayment). I see that we seem to have had similar experiences with school, as I never really suffered all during my education, either. I may go back for my PhD, but not just yet. If I do not want to be a specialist and/or professor in that field, is it worth the three or more years required?

Doug - Another well thought out discussion of colonization. I'm afraid that my interest is more contemporary - that is how to get myself from point A (Earth) to point B (Anywhere else) ASAP. I am getting very impatient.

Dick - A Snit is a creature that exists in a series of small, simple board games written by TSR Games (the D&D people in Lake Geneva). The titles are "Snit Smashing" and "~~Revenge of the Snits~~" (I think). I have copies of them, if you desire more info. As to the draft, if parents are so worried about their daughters going off to war, aren't they equally concerned about their sons? Snit's
Revenge
[I just
checked]

Hoosiercon rpt - Great report. Horrible hotel.

Valli - I am afraid that I didn't find Simon that entertaining. Alan Arkin's performance upon departing the water tank is excellent, but the stereotyped scientists detracted from the effect of the film. Written and directed by Woody Allen's associate, Marshall Brickman, it presents a New York intellectual's view of society. All the suggestions made by Simon are merely easy jabs at modern culture, and present nothing new or original. The TV worship bit was well done but has been seen before (i.e. opening to the Groove Tube). I am afraid *velour* loses its whole effect at long distances. C'est la vie! It is indescribably nice to be appreciated.

Wiscon rpt - Yes, it is a really nice hat.

Bill H. - I am afraid that my distance from the Galactic Center(Chitown) puts me in a difficult position from which to aid the mass driver project. Keep me posted, though. Great stuff about Saturn's radiation belts. I'm glad I caught Thunderbirds and Stingray when I crashed at your place. Though I always preferred Fireball XL-5, they were still entertaining. Upon rethinking my logic, I realized that any technical position in the military would require a large amount of training with the equipment for one to make efficient use of it. Thus, the short-term draftee is precluded from filling such jobs. So unless they enlist, the smart become grunts just like the rest.

Doug(again) - I was job hunting, too, but my situation was totally different, being one of overchoice. I really feel for you, even as it arises from sympathy rather than ^{compassion} ~~comiseration~~. I hope that you will not turn into "just another programmer", but will retain those other abilities and interests. The world needs more warm, feeling humans, not programmers. I'm not afraid of failure or the real world, only getting out of the real world something I can enjoy doing and being where I can enjoy residing. Since there are no starship jockeys or space colonies around, I guess I will have to settle for second best.

*V-I curves
and load lines
über alles!*

Mike B. - What we need is a how-to-do it text for designing usable electronic circuits, analog and digital. I spent my electronics lab rewriting in my mind the textbook (Millman and Halkias), and Jeff Sekiya told me that it was better than any of his. I want the simple model of the transistor (current source and resistor) and the other components without all the theoretical gobbledygook. Save that for the "If it don't work, look here" section. Give the guy the diode curve, plunk him down at a breadboard and oscilloscope, and show him what to play with. With Thevenin and Norton equivalent models, you can design the world. All he needs is Ohm's law and "what must go in, must come out", and he's off and working. Digital ain't much but black boxes, pullup resistors and filter capacitors. Op amps are incredible, real simple to use. At this point you start playing with bandwidth and such.

Marty - Hiya!Hiya!Hiyaaaaa! A veteran of Corporate America, and IBM at that. With my new job, we can now discuss examples of the Peter Principle in action. Engineers at Hughes are known as 'fireproof'. Instead of firing, they shunt the bad ones off to low-responsibility positions and lower their yearly raises, trying to give them the 'hint' that maybe they should leave. The saddest thing is a poor engineer who becomes the manager.

PARRY AND REPOSTE(for APATECH #7)

Cover - Another apatechan (oid?ite?ist?er?) who can draw. Well done, Marty.

555 Times - I approve of the work that went into this set of graphs and compilations. I really should get my page count up, as I can't stand being behind those two whippersnapper newcomers, no siree,

by cracker. All I can say is "We Made It"

Mike B. - See my Whatcon report. Good debate about the difficulties of science fiction writing. Now I can comment on your zine. The phrase "Your GONE" should be spelled "You're GONE". Tch,tchth, and you have a text editor, too.

Donna - I hope this clears the air about you and Tullio. Wow, another appreciative velour fan! My adoring fen await my triumphal return, but the question remains, will I play in LA? My question was a bit rhetorical, as to have morals requires something a priori, which means faith of some form or other that there is something beyond that which can be experienced.

Michael - You may be the perfect size for man-powered flight, but I fit into a Mercury capsule. Good luck with the new abode. I have christened my place the "adobe abode" (silent e in both words) since it is done in stucco, both exterior and ceiling, and I love anagrams.

Marty - I also have read The Third World War. What it says may be a valid extrapolation (See, I avoided the cliché 'scenario'), but I get more and more disgusted at warfare the more I look at it. I have one very pointed question: Has any^{one} ever shown that any war in history, if won by the aggressor, was worth the expense it exacted? Did the increase in land and tribute offset the death of the citizenry and screwal of the economy? For instance, every war is inflationary. War by the current superpowers is not fought because citizen a of country A is starving and/or impoverished and wants food and goods from citizen b of country B, but is decided on some abstract basis of resource costs, influence and power. I understand desperate war by desperate men, but not police actions.

Valli - I read The Right Stuff, and enjoyed it, but my experience differed from yours due to my different feelings towards the astronauts. I was young and impressionable too when they took to the stars. My ecstasy was in the fact that someone had made it to orbit, someone was going to the moon. I didn't care what their morals or sex habits were, because for me the heroism was in the doing, the achieving. I wanted to join them in space, to start the great move forward. I don't rever them, I envy them their space thrills. As for Minicon, the con suite was fabulous, the velour party too short, and my birthday forgotten.

Kevin - Another victim takes the bait! I like the book reviews. The reason only 10% actively fought is due in part that someone has to raise the crops, run the shops and keep the economy producing consumables so that all can live. Of course, it could be that most people do not like being shot at. Congratulations, you have just passed the Keith Thorne Recognition Profile Test. Accept no substitutes.

Kip - I also have an anthology entitled Adventures in Time in Space. Or at least my family still does. It was one of those pseudo-hardcovers, seemed to be aimed at teen-age and all I can remember was that it started with a Fredric Brown story about a person whose time-sense is altered so he can live his life out in the last minutes before Armageddon, or something like that.

R. E. Smith - It sounds a bit like James C. Hogan's schtick. Personally I dislike any of these "alien astronaut" tales. Many people who believe in these do so because for some reason they feel that man could not have developed alone, that he must have had "help". Besides violating Occam's Razor, it just removes the fundamental question to some place else i.e. How did the aliens develop into their present state of civilization? Somebody has to use their own bootstraps somewhere to get the whole thing started!

Dick - I just realized how many members of Apatech have changed jobs this year. By my reckoning, they are Valli, you, Steve, Bill L., Bill R., Greg, Doug, and myself, and probably more that I have missed. What ever happened to forty straight years at the same plant? As for California, never say forever.

Rolf - Another Chusfan joins Apatech! RAEBNC

Bill R. - Not another one of you! There are too many Bills! Change your names, have a fight to the death, do something. I give up. Good explanation of organic superconductors.

Valli - As a personal note on the fandom and marriage issue and your internal debating, let me say that I am now faced with the spectre of "settling down". Now that I have graduated and have a real job, society expects me to get married, get a house or condo, and get down to the business of raising a family and becoming a pillar of the community. Somehow, I just don't feel ready. I don't know where I want to live, what I want to do and feel I haven't experienced life enough. I'm still learning how to enjoy myself! Fortunately, the parental pressure has only been moderate, as they were 24 and 27 when they wed. Your concern has deeply touched me. The closer friends are, the more it hurts.

Steve - Actually, my expectations about my present position were not very great. I want a job that challenges me on many levels all at once: physical, technical, emotional, organizational, but without requiring me to become power-hungry. I guess what I seek is adventure, but not simple adventure but that which is done to achieve something besides "because it's there".

Dave - Another victim for my verbiage! As for my title, you get the extremely abbreviated explanation as I already did this a few issues back. The charmed sea is a concept from high energy physics (my speciality) wherein pairs of charmed quarks arise spontaneously from the vacuum and interact with other partons. As for Brave New World, Aldous Huxley imagined the birth control devices would be like that when he was writing it in the 1930's.

Dave P. (forgot to give the last initial for the previous Dave. Darn!)

- I never realized that there was so much to welding. I just thought you got the old heliarc out and zapped it. But then we high energy physicists make everything out of aluminum. This is because it is easy to machine, lightweight, and doesn't move when you turn on your many-kilogauss magnet.

Doug - I'm glad that you are feeling much better about yourself and your job situation. As for religion, I refer you to my comments to Donna, and I add that what really turns me off is that I feel that many people "get religion" because they are scared sh*t-less of death and want something or somebody that says it ain't really so. As for proselytizing, it's just self-righteous salesmanship. Faith to me is a very personal matter to be faced personally and honestly, not because you get caught up in the religious fervor of the group (My Protestant upbringing is showing)

Gretchen - The membership just grows and grows. RAEBNC

Renee - I like tirades! (As if it wasn't apparent already) A very nice Hugo list. I am finally realizing how ignorant I was of my effects on and relationships with the people I've known. You say techies are perceived as frivolous and Doug says we are seen as serious. Can you both be right? My question about ethics is discussed in some of the previous comments. I will add that what is interesting is how these "humanistic" ethics are arrived at. Do they arise only from the human condition or must something be believed in a priori? This harks back to the old debate of whether man is inherently "good" or "evil". First you must define good and evil.

Bill H. - See my comment to Donna. I concur with you about her and Bill L. As for your Operation Rat-Hole proposal, you already know where I stand. Here in LA I have noticed a number of examples of a form of skywriting which is done by five or six planes flying parallel to each other. All that each pilot except the leader does is maintain its course relative to the others. The leader plane has control of the smoke generators of each plane. This results in an effect not unlike dot matrix printing. i.e.

dir. of flight -->

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Of course their letters are more curved as they are not doing it on a typewriter but I think you get the idea. As for fnords, has anybody thought what happens if you get vanity license plates that say FNORD. This would make your car invisible to nearly everyone. People would look at your car, and wonder why they are getting uneasy about that empty parking spot.

Greg - I am afraid I will miss your tour of Boston and environs. I really want to go, having been there three times before, one time attending a model United Nations convention at that very hotel. But it is now a "con too far". As for your comments re my remarks on instilling ethics, I refer you to the previous. I detest the "Moral Majority" and TV ministers. How do creationists explain all the archaeologic and paleologic evidence? I don't think God put it there to provide employment for archaeologists.

There you have it. Five and a half pages of ego-scan. Enjoy, enjoy!

THE JUICY, SORDID DETAILS

So as to be dull and traditional, I will start at the start. (Notice how this self-deprecating disclaimer lets me get away without coming up with something original and creative.) In mid-April, I received a call from one Dave Vincent, a college friend from MSU, whom I hadn't heard from in two years. He explained that his department at Hughes Aircraft was hiring like mad and so he got the go-ahead to call any friends he thought might be interested, collecting a finder's bonus for his troubles. At this point, having no other offers and Fermilab having a hiring freeze, I decided to let them splurge on an interview for me and sent them my application. They responded favorably and I found myself winging LA-ward for an interview. The people in the department seemed alright and the job at least moderately interesting. After I got back from Marcon, Dave called to say that the managers had been impressed ~~and~~ ~~were now swabbing decks~~, and they were going to make me an offer.

Now I had to make a difficult decision. Taking this job would mean not only working on military hardware, not one of my more favorite avocations, but also moving to Los Angeles. Before this, the farthest west I had been was Minneapolis, and that was at Minicon. It also would mean moving away from both my friends in Urbana, and everyone in and around Chicago whom I had been getting closer and closer to with every Thursday night I attended. On the other hand, it was a bird in the hand, a hefty salary and would give me something new to work at. The last few months at Fermilab working on the experiment as a "lame-duck" physicist had hampered my enthusiasm for my research. I knew what I didn't like, but did not have enough experience to know what I did like. In the end I decided to take the job (obviously) probably due to momentum more than anything else.

The two weeks before I left were exhausting, to say the least. Memorial Day weekend saw me drive my self into oblivion running Whatcon. Due to my fractured schedule of urbana/Fermilab of the past two months and my own laziness, I had failed to delegate my authority for the convention and found myself running hucksters, the con suite, gophering and other odds and ends. I'm glad others enjoyed it, I was just too run down and/or ragged most of the time, culminating in my missing all the Sunday afternoon activities due to not being where I would be expected to be. (After I closed up the function rooms, and seeing that everyone was not at the hotel, I walked home, showered and collapsed) Thanks for the apology, Mike, and I apologize for nearly taking your head off when the group finally appeared (after movies and dinner) at the house. I am afraid you were a target of opportunity for my venom. I was very disgusted at that point, as the Banquet was the only meal in three days which I not had by myself at some odd hour. I was sick of holding down the con while everyone else went off to eat. On Tuesday it was back to Fermilab, where I went to Thursday night. Friday it was back by train to Urbana so that Saturday I could drive to Flint. I stayed with my parents until Thursday morning, when I boarded a train to Chicago. I spent the afternoon walking around the Loop area, as I figured it might be my last chance to see it. Then I took the El to Thursday night, where I bid my fond farewells (and goodbye kisses) to the assorted fen gathered. Then it was the midnight bus back to Urbana, which has got to be the worst run on that route. I forgot to mention that sometime during those two weeks I had to pack my belonging so the movers could pick them up on the Friday (June 6) before I left.

Of course, the day of the move the movers called to say that the truck had broken down and they would have to reschedule for next week. Only problem was my plane was for Monday noon. My housemates graciously accepted to make sure my stuff got loaded. After resting over the week-end, Monday I winged to LA via O'Hare. While wasting away my layover, what should I here but my name being paged, telling me that a party was waiting for me at the gate. I hurried there, and who should I find sitting there but Bill Leiniger! (Innumerable thanks, Bill). I had never had a send-off before, and the past months of lonely bus and train stations and rides had started to get to me. Bill handed me a card with my very own Higgins cartoon, (Finally, after four years I make my appearance in one!), signed by the gang at Wiscon, and a nice handmade geometrical object he had whipped up. As I boarded my plane, all I could think of was "Why was I leaving all these dear people?".

THE NEW JOB

My current position is as an MTS (Member of the Technical Staff). My specific duties, as you can surmise from the organizational chart on the next page, are system engineering for electro-optical systems. This department is the leading-edge technology development group. We do studies for proposed systems and demonstrate the feasibility of new technologies, this normally involving improvements in the sensor chips. Electro-optical systems are lasers and night-vision systems which see in the infrared. As I am part of the thermal imaging lab, I don't work with any of the laser systems (Oh well!). So far I have spent two months working on a computer simulation that was sort of have done. It is to be used to design new systems, as computer time is far cheaper than prototyping and modifications of said prototypes. I am still learning all about this stuff, having to learn about Fourier transforms, convolution, signal processing, optics and the like. My section head is nice and always wanting to know how things are going. As this is work for the DoD, I have a Confidential security clearance now, and am supposed to apply for a Secret one. Everybody has ID badges and cards, and the hourly employees are separated from the salaried by having green badges instead of pink ones. As this is a large complex, it has all the expected security patrols and large beehive buildings, all painted a very sickly green reported to be Howard Hughes' favorite color. Mine is so large they label the hallways (A-J east-west and R-Z north-south) so one navigates by vector components. Currently we are situated near the ocean just north of LA International next to the world's longest private runway. This makes the weather very pleasant in the summer and keeps the smog to a minimum. In less than a year we are moving to a new site which is right next to the oil refineries and smells it. It was the only place where they could afford the land, as the current site to be cleared for condominiums. It's amazing when I realize that I pay more in taxes now than I used to earn. After withholding, I'm left with about 64% of my gross. This can be depressing. One interesting aspect is that I still have to fill out a time card every week. Hughes makes its money by selling its engineer's time to the government, so you must keep track how many hours you worked on each project you are involved in every day and charge them to the appropriate account. They have a whole staff who seem to do nothing more than send you nasty memoes every week complaining about the way the cards are filled out. Hughes has the highest overhead of any defense contractor, about \$1.70 for every \$1.00 of an engineer's time.

Aerospace Groups

Electro-Optical and Data Systems Group
Electro-Optical Engineering Division
Electro-Optical Development Laboratories
Thermal Imaging Development Laboratory

TftCS #7

ELECTRO-OPTICAL SENSORS DEPARTMENT

M Y PINES
Manager

L B Peresztegy
Assistant Manager

R H GENOUD
Senior Scientist

R JANIK
Y J SHAHAM
Senior Systems Engineers

IG. PROCESSING DEVICE DEV. SECTION

G DOMINGO
Head

E E MILLER
Staff Engineer

INTEGRATED CIRCUITS

S DUNCAN
V F DI BIASIO
W JENSEN
P L LIVIO

HIGH DENSITY DEV.

(G DOMINGO)
M B ABOLITZ
R JAGOSZ
W ANGEVINE

MFPA DESIGN

D B CARO
W ANCHER
S J BACHORSKI
S BESSENDORF
B J ISKER III
I D LEVY

MFPA TEST

G T YAMAMOTO
S ALSTON
S N COLEMAN JR
R R HEBARD
S B SNYDER

FOCAL PLANE PROCESSORS SECTION

D H ALEXANDER
Head

ELECTRO-OPTICAL SYSTEMS SECTION

A M MIKA
Head

S M BIEZA
Staff Engineer

SYSTEM DESIGN

(A M MIKA)
S H KLAPPER
S T LOH

SENSOR ENGINEERING

(L M WOODY, Acting)
P. KWOK
R S ROBINSON
K. THORNE

FitPL #1

Here I am at the bottom of the hierarchy.

Secretarial

C SCHMIDT (Sec'y to L B PERESZTEGY)
J NELSON (Sec'y to M Y PINES)

Let us break from the sorry tale and present some items of general interest . . .

NOVEL NOVEL & ?

CHANGELING by Roger Zelazny - The most recent novel by this well-known author reported to have hacked out on the Amber series. Actually more of novella length, it is another illustrated story. The plot involves two boys from parallel universes who are exchanged by a wizard at birth to keep one from growing into to a dangerous sorcerer in his native world. The major difference is one world has magic and the other one is technological (ours). As expected neither man fits into his adopted world, and the wizard, as a last act, brings the sorcerer's son back to save his world from the transplanted engineer who has revived a presumed destroyed robot city. The sorcerer's son (read good guy) plays the guitar, rides dragons and the like. The drawing by Esteban are alright, except that he insists on cladding his nubile female (of course the romantic interest of both men) is nothing but metal bikinis and light capes, while she is described as being a farm girl and wearing tunics. Instead of disliking the engineer for trying to convert his world, I hated the xenophobic townspeople who attack both him and the sorcerer as evil and create the whole mess. I never really got into the story, as the ending was predictable from very early on. Okay but not exceptional. Roger can do better. Roadmarks showed much more promise.

TITAN by John Varley - A Hugo contender. The novel shows great scope of imagination on the part of the author. After the spacecraft is taken and crashed on "Gaea" and the characters reappear scatter across the world, it settles down to a journey story to find who is in control and how to escape. They pass through various exotic terrain and encounter various creatures. The weak point is the ending, where after they find the projection of the "goddess" who is the world, and all is well Varley throws in as an afterthought that Cirocco Jones, the protagonist, is quickly recruited by the entity to be her representative in the world, which is the setup for WIZARD. This is very anti-climactic and forced.

CINE SCENE & ?

THE EMPIRE STRIKE BACK - I watched this opening night in Chicago and seen it twice since. What can I say but "It was worth the wait"! A very busy film with lots of "When last we left our intrepid band . . .". The cliché lines are recycled and new ones are created "It's not my fault" and "I've got a bad feeling about this". What is amazing about this film is that the kissing scene between Han and Leia provoked no "yucks" from the juveniles present. The characterizations were fuller, and interpersonal relationships much better handled. It is a great flick, and not the usual sequel. FANTASTIC!!!!

THE BLUES BROTHERS - A great way to waste a couple of hours. The car crashes were overdone to the point of numbing the audience to their effect. I was fortunate to have seen enough of Chicago to get the references. Why didn't they show them on Lake Shore Drive, the symbol of Chicago? I enjoyed the music, especially Aretha Franklin's number. A mindless film but good summer fare.

HANGER 18 - Although they did everything to hide the fact, the TV advertising and "1 week only; held over; 3rd smash week" routine of pre-paid newspaper ads labelled this as another product of Sun International films, producers of the von Däniken, Bigfoot, and Noah's Ark sensaflicks. Billed as the revelation of secrets about a captured UFO held by the big, bad US government, it seemed too good to pass up. They were stretching things a bit, as the fictional account begins during a space shuttle mission. A UFO spotted from the shuttle crashlands in the desert after being hit by a satellite. But it is two weeks before the election, and Robert Vaughn, the nasty chief of staff, can't let this get out and embarrass the incumbent, who has mocked his opponents pro-UFO stand. So it is taken to Hanger 18 at an air base in Texas. (There really is a Hanger 18, but it is at Wright-Patterson AFB in Dayton, Ohio and houses captured foreign weaponry for study). The evil government covers up by blaming the shuttle astronauts for the death of the other specialist during the explosion. Meanwhile a secret NASA team is assembled to analyze the spacecraft. They get inside and discover two dead aliens. They then start deciphering the language of the aliens and find, lo and behold that the markings are like those found in Zoltec ruins! (Surprise, surprise) and that these are descendants of the "ancient astronauts" who bred with the crude apes to create humans, all biological incompatibilities aside, and they have been watching us ever since. The action part of the film is the shuttlers being chased by the dastardly CIA men as they try to clear their name, with the obligatory sacrifice of one of them. As the probes near their quest, the horrid chief of staff convinces the general and secretary that this information can not get out, and to destroy the Hanger and its occupants in an "accident". But because right was on their side, the principal investigators and remaining shuttler are inside the spacecraft when the explosive-laden plane crashes, and are thus saved to call a press conference to tell the world that the aliens are coming back. As you can tell by my sarcasm, I tire of these "what has your government been hiding" flicks, especially when it is a fictional account. The acting was wooden the characters shallow, and the plot hackneyed.

THE FINAL COUNTDOWN - Basically purports that a US aircraft carrier circa 1980, is caught in a time storm which hurls it back to Dec 6, 1941. Of course they are beset with the question, do they intervene? The largest part of this film appears to be a Navy recruiting poster, showing off their neat planes and massive carrier the USS Nimitz. What I noticed most were the reactions of the audience when ever the F-14's attack. The teenagers appear almost bloodthirsty in their "go-getum" support. Perhaps this reveals a basic frustration of the American public at the fact that we have all this military might, but are still pushed around by other countries. They really want to go and strafe anybody who is against "us". They may feel an odd nostalgia for WWII, when we had declared war on our enemies and attacked them with all our might and will. An under-used muscle just begs for exercise.

LIFE IN SMOG CITY

My biggest adventure upon arriving here was teaching myself to use a manual shift. I did this by renting one at the airport and having to get to my hotel a few miles away. The details are very embarrassing, and my ego is very glad only strangers were observing my antics. I reasoned that any intelligent person should have no trouble if he under-

stood the basic principles involved - clutch in, car in gear. Take clutch out to change gears. I found that the mind and flesh were not quite willing. After numerous stallings and racing engines, I made it. As for California and cars, they definitely have a love affair with them. I never saw so many vanity plates in my life. There are incredible numbers of Mercedes, BMWs, Bentleys, and Porsches. How can people afford these cars? They run 15K and over. Cars don't rust out here, but their paint dulls under the scorching sun. (I have been here two months and it hasn't rained yet!) Of course the lack of a winter means that almost any old crate will keep running. A lot of eyesores. The sports cars can actually be used to some effect here, as there are numerous winding canyon roads. The major driving style is to go as fast as the traffic will bear, regardless of the road. They have invented the "California stop", which only requires that some part of the car is behind or in the crosswalk. And to top it all off, U-turns are legal here! The drivers seem to change lanes at will without signalling and signal lane changes in heavy traffic by dangling a limp arm out the window and sort of pointing where they intend to cut in. They are, however, fairly considerate of pedestrians, probably because they are such a rare sight.

As for the weather, the precipitation forecasts are replaced by smog reports. I live and work reasonably close to the ocean, so I miss most of it. If you look, though, you can really see it and it is very sickening. It is a dirty brown haze that shrouds the hill and buildings with varying severity. One of the most depressing sights is to fly into LA from the east and see the smog forming a layer over the area.

PERS PERUSE & ?

The biggest change for me is going from a friendly, busy home of five people to a lonely, quiet one bedroom. I come home from work to an empty abode, with no one to talk to. Not having a stereo or radio, and my TV set on the fritz means I get a lot of reading done. I read the newspaper cover to cover. My previous motivation for cooking, the egoboo system, doesn't work as well when you have only yourself to impress. I am trying to learn to like my new home, but a part of me doesn't want to. It misses my friends and wants a justification to move back. I have gone to LASFS meeting a few times, but it is such a large group that it is hard to meet anyone. There are many things to do, but most are awkward and not much fun to do alone. Part of the problem is that the last two times are started anew, for undergrad and graduate, I looked forward to it. This time my feelings were very mixed. As for when I may next be in the Midwest, I plan to go to Windycon and I get the last week of December off, should Ishercon be feasible. Its time to create a new life style, but right now I don't feel up to it. On the bright side, I get to see a Goodyear blimp every day, and listen to Doctor Demento on Sundays. Right now, I give myself a year before I move on.

REPRODUCTION

A few words about how this is being produced. I am sitting at an IBM correcting Selectric II in the secretaries office in my department at Hughes. I did this over a week of various evening stretches. I can Xeroxes for 3¢ A COPY!!! It appears that there will be an odd number of pages but please forgive me, Renée.

Until next time ;

Keith

silly personal touch



professional development seminar

Ext. 22445 FU

Dijkstra on Programming

Professor Dr. Edsger W. Dijkstra will visit Hughes at two locations on Thursday, August 7 as the guest of the C&DP Professional Development Seminar Series.

He will speak on "Programming as a Battle Against Unmastered Complexity." The seminar will focus on the "crucial role of formal specifications in the application of the 'divide and rule' principle." According to Dr. Dijkstra, "Some impression will be given of the type of mathematics needed for the successful design of sophisticated software. The lecture's moral is that in computing, mathematical elegance is not a dispensable luxury, but a matter of life and death."

"Programming as a Battle Against Unmastered Complexity" will be presented twice on Thursday, August 7 at the following locations:

Fullerton:

9 - 11 AM
Building 600 Cafeteria
(Capacity 200)

Culver City:

1 - 3 PM
Building 6, Conference Room D1111
(Capacity 225)

Seating will be on a first come, first served basis.

*Eat your
heart out, Mike!*

HUGHES

HUGHES AIRCRAFT COMPANY
COMMUNICATIONS AND DATA PROCESSING

In an effort not to waste this page, I am adding
THE WESTERCON RPT.

Westercon is the big regional con for the
West Coast, this year's being held in L.A.

The cast of characters who attended were myself;
Renée, Marty, and Tullio hawking rayguns on
their way to San Fran; Michele Colsher;
Jamie Hanrahan from San Diego; the famous
comedy team of Geoff Darrow (LA) and Mike
Stein (Chi); Joan Henke-Woods; and the
chicon committee heads. As Friday was July 4th
a holiday, the con began Thursday night.

Obligatory comments

Hucksters - got stuck in little cabanas strewn
about the pool area. Made selling
very difficult

Art Show - Large with a good selection of art.
Unfortunately, they had four-bid minimums
for auction, but then waived them for some
pieces, also wouldn't pay the artists after
the auction

Parties - Stank. Friday night you wouldn't know
there were ~2000 at the con, with hotel
police closing any party with open doors and
clearing hallways. Saturday was better
but still very subdued

The Midwesterners came 2000 miles to have a
party with themselves. Con did not impress me.

MEROMORPHIC MELANGE

8 August 1980

for wrapping around a post-mailing to APA-TECH 8

being an occasional supplement to The Quintessential Singularity
issued by The Center for Spaced Research

Uh-oh, ran over deadline again. This apazine needs someone with an iron hand, someone who'll make the ink run on time! As long as I've missed the boat anyway, I'll toss in a few news items and corrections.

Viking got a slight extension to do some more photography, since it appears they had more control gas than expected or something. Nonetheless, the radio telescopes here will be surrendered by August 15 to begin full-time monitoring of Voyager 1's approach to Saturn. Arrival there is due to occur on November 12th.

I figured out a couple days after I typed up QS how the apparent path of a geosynchronous satellite can be a "figure-eight". It turns out to be a purely geometrical effect and is not due to a physical cause. Interestingly, our satellites do not follow such a path. Excruciating details on this and the Sun's analemma will appear in QS 8.

I saw Venus and the waning crescent of the 26-day-old Moon together in the sky from work here yesterday at about 6 AM. If you're awake between 4 and 6 in the morning, I recommend the view.

Could I please have a copy of Incorrect Thoughts #1? Thank yez...

I located the back issue of Science News which had the short article on the Jupiter Effect; it was page 377 (I think) of the volume for the last half of 1975 (further back than I thought!). Even though their main premise was shot down, Gribbin and Plage-mann are still sticking to their guns. So I take back what I said. Gribbin always was a sensationalist... (Opinionated so-and-so, ain't I?)

POLE OF ORDER 1 - GRAY ROTATES ANGRY YAKS: I can see how Witchita Could Really Annoy You. Congrats on the new position! I hope it's what you were looking for...

That zany Dr. Carl is at it again! Here's the News Note from the August Sky and Telescope.

(Do Motie particle physicists discuss broken asymmetries?)

THE PLANETARY SOCIETY

A new organization has been incorporated to foster public interest in planetary exploration and the search for extraterrestrial life. The president of The Planetary Society is Carl Sagan of Cornell University, and the vice-president is Bruce Murray of the Jet Propulsion Laboratory.

They point out that the United States will not launch another mission to the planets until at least 1984, despite the spectacularly successful Viking, Voyager, and Pioneer flights.

Membership is open to anyone and includes a society bulletin, spacecraft pictures, and invitations to lectures and exhibits. For information, write Louis Friedman, Executive Director, 1440 New York Dr., Altadena, Calif. 91001.

Make that five satellites and three hard-boiled eggs. This item appeared in Electronics News for 4 August. I haven't decided yet if I want to stick around WU for this...

WU Orders 5th Westar For \$25M From Hughes

WASHINGTON — Western Union has disclosed plans to expand its Westar domestic communications satellite system by ordering the construction of a fifth \$25-million spacecraft slated to be put into orbit in August, 1982, 8 months after the scheduled launch of Westar IV.

Under terms of a contract with Hughes Aircraft Co., the firm building Westar IV, Western Union exercised an option for the construction of an identical 24-transponder, 4/6-GHz satellite, designated Westar V.

Citing its contingent application filed earlier with the Federal Communications Commission (FCC, May 5), Western Union said the additional satellite, to be positioned at 75° W. longitude, was needed to accommodate traffic growth requirements.

Designed to have a 10-year life, Westar V will carry voice, data communications, video and facsimile traffic, and will have stronger transmitters than those on the first three Westars.

"Significant growth has been experienced in the use of Westar transponders for distribution of program material to broadcast stations and cable television systems and, indeed, Western Union has had to turn down

orders for full-time transponder usage so as to continue to be able to provide voice and data services and occasional video distribution services," a spokesman for the carrier said.

Noting that American Satellite Corp. now leases five transponders in the Westar system, Western Union added that it has agreed to buy a 20 per cent ownership interest in Westar V.

Late last year, Western Union, American Satellite, Fairchild Industries and Continental Telephone Corp. signed a \$75 million to \$100 million agreement under which ASC, Fairchild, and Continental would acquire interests in Western Union's Westar and Advanced Westar systems (EN, Oct. 29, 1979).

By exercising the option for a fifth satellite while the fourth is being built, Western Union said it expects to realize considerable cost savings. The carrier estimated the launch costs for Westar V at \$30 million.

westech

westech #3, for APA-Tech #8

Jamie Hanrahan, 4406 Menlo Ave., #8, San Diego, CA 92115; 714-284-4938

To Hell with copyright notices. Anyone crazy enough to want to copy and distribute this trivia is welcome to it.

HERE WE GO AGAIN...

...with another last-minute issue. Glork! I picked up AT7 from Renee at Westercon, took a look at the TOC page, and realized to my horror that the next deadline was only three weeks away! There's just no rest for the perennially late. Here I thought I'd have time to kluge up some neat text-processing hacks before I did another one of these, but no way... at least, I'm not going to count on it.

Speaking of which, as I write this, the interface for the ET50 is still in the pencil-and-paper stage, but we have acquired a daisy-wheel printer (Qume) at work. Still no text-formatting program, though. I'm tempted to write one, but if I put this off any longer (it's now the 20th of July), Comic-Con will get in the way, and even the grace period won't save me.

Since last ish I've gotten a look at the instruction manual for Olivetti's ET221. There seems to be a slight deficiency in the justification algorithm (the machine will decide to break a line upon the very first occurrence of a space within the hyphenation zone; it will not wait to see if the next word isn't a very short word that would fit on the current line). And the print rate is only 20 cps, barely faster than the ET50's. Hmm, the IBM gadget might not have been such a bad choice after all.

OLD BUSINESS

Re. APA-Tech #7:

555 Times: Fascinating (to coin a phrase). But I've never been in an APA before and have no point of reference -- is this much growth in the first year unusual? Good? Horrifying? § Your pages/apazines per member chart makes me feel awfully unproductive.

MuBetan: (I can see I'm going to have to get a Symbol element for this thing.) Welcome to the wonderful world of con-coms. You didn't mention whether you'd declared "never again!" or not (most of the habitual con-com members I know have done so, on the average of once per con). § Liked your condensation of the Marcon panel.

Donna: Forgive me, please, for commenting on a situation I know next to nothing about... but: 90% of the people who dismiss someone's feelings for someone else as "just infatuation" are usually guilty of envy/jealousy/wishful thinking -- they should be interpreted as "Damn! Why couldn't he/she have been interested in me?" Of course, on the other hand, sometimes friends are right about such things.... good luck.

YAAITSS -- Don't apologize for the "poor, but necessary substitute". Everyone understands the hassles of moving and I'm very glad to know where to buy that Shuttle cutaway poster.

Incorrect Thoughts: A good thing I'd chatted with you folks at Westercon before reading this, or I'd be asking you what "five" meant. § Re ct Bentley: A Fortran Coloring Book is, indeed, the silliest Fortran text ever devised. And here I'd thought that CDC's The Bases of Fortran would have the honor forever.

Valli: Re your book review: You write beautifully. No, I'm not kidding.

Jupiter FX: RAEBNC.

K[w]ip: RAEB: I must comment on your, er, text output scheme... while I'd tip my hat (if I wore one) to your imagination (for thinking of doing your zine by hand), your courage (for deciding to do it), and your stamina (for doing two whole zines this way without losing your hand), it is kinda hard to read. No, strike that. It isn't hard to read, but it looks as if it is. I find I have to force myself to get through it even though I like what I'm reading. This is not a criticism, just an observation; I think it's a marvelous idea!

Transporter Topics: Your enemy seems to make an awful lot of mistakes. § Re ct Doug: Any reason why that winch couldn't be turned by muscle power (human or animal)?

Smith's Corona: RAEBNC.

This Space for Rent: I like the catalog idea. But I'll bet that no matter what set of 32 (or even 64) questions you come up with, there will be lots of stories that aren't adequately covered (either too many yes's, or too many no's). But that's not to say I don't think you should try it. If I were you I'd avoid groups of questions with fine lines between them; for instance, combine your 9th and 10th questions into "does magic or psychic powers occur?". I'll no doubt think of more questions in due course. The only other bit of advice I have is to arrange things to be less selective rather than more selective. If a person is looking for a particular story, it's a minor inconvenience if a few extra titles come out of the search, but it's an utter failure if the desired one isn't found. ¶ There is no doubt quite a bit of literature on how to organize indexes of this type. Also, there is no doubt that there's a lot of work to be done in the field. I can't say too many good things about this project; if it works, your techniques may be applicable to other subject areas. And we need systems like this. "We will survive or founder, depending on how well the librarians do their jobs." --Heinlein.

Overdue Bill's: RAEBNC.

Valli II: Re ct Bill Leininger: More needs to be written about running commercial software (or any software) designed for TRS-80's, Apples, PETS, etc., on homebrew machines. It can be done, sometimes.

Singularity: Three: I like the robot control system. If the FM wireless mike is the same RS model I was playing with a while back, you should have plenty of range.

Lasergram #1: See my ramblings later re the Info Handbook. § Re ct MuBetan: If you like Vangelis, give a listen to Synergy, Tangerine Dream, Jean-Michael Jarre, and (of course) Mike Oldfield.

Uncle Dave's Journal: Nice writeup on gold refining. Now I have something to back up my yes-but comments when people talk about getting gold out of jewelry and whatever themselves.

Armchair Speculator: Good luck with the job. § Re ct MuBetan [I seem to be commenting a lot on comments to MuBetan, don't I?]: The way I read it, that color-wheel system for color TV was developed and pushed by CBS, but that's just nit-picking. The trouble with it was the size of the color wheel -- the radius would have to be somewhat more than the height of the picture tube. A 25" set would need a wheel over three feet in diameter -- spinning at 600 rpm! (3 frames per revolution, at 30 fps.) And the picture quality was not that good; there were problems when you were looking at quickly-moving objects. Witness the color breakup that occurred on the Apollo color transmissions when the camera was moved quickly -- this was not all due to vidicon lag.

The Answer is Austausch: I seem to have stirred up a minor furor with my comments on the occult. I expected that -- what, I thought to myself, is the point of writing an editorial that everyone will agree with? I'll have more to say on this subject later, but for now I'll leave it at: I don't think we know everything. But acknowledging that there are some things we don't understand is no reason for accepting patently ridiculous beliefs. Now, what is "patently ridiculous" varies from one person to the next. To some people it may seem perfectly reasonable that whatever governs the apparently-random events in the universe should also be able to affect the shuffling of a peculiarly marked deck of cards in a manner that can be correlated with said events. To me -- well, you know how I feel about it. But I'm not a bigot on the subject; if you can postulate any sort of mechanism by which Tarot cards (or astrology) might work, I'll listen. Really, I will. But until then I'll continue to think that anyone who places any credence in either is kidding themselves -- at best.

Renee: Re your ct OTTOMH #2, I agree. Language does not affect the way we think; language is the way we think. But can we force changes to language? Mightn't such an attempt create a backlash effect? I don't know for sure, but I think that consciously eliminating sexism from the language will help if and only if we keep up the conscious effort long enough. Naturally, "long enough" means for longer than a generation.

Higgins: Much better repro. Agree with comments to various people on Alien, SW and TESB, and most other films. § Re ct to Doug on colonizing other planets: I tend to agree with Niven's comment in "Bigger than Worlds": I can't see the same people who spend generations in a spacecraft settling down to become farmers. If the ship sustained them for that long, it could go on doing so. Why set down on a planet?

Hmmm. I could say quite a bit more on this, but I think I'll put it off 'til nextish. Too many conflicting ideas to resolve right now. § Re operation Rathole: I love the skywriting idea! "Fiawol" it is. Do people in Chicago still do honest-to-goodness skywriting? Most everything I see these days is something that has been called "skytyping", using five aircraft that lay down dot-matrix letters, much like a Centronics printer. They can usually do fifteen to twenty letters before the first letter disperses beyond legibility. And I should think that the weather requirements would be eased. ¶ I don't really like the banner idea. Banners towed behind planes inevitably convey a feeling of CHEAP! (even though I know it isn't). The banner often flutters in such a way as to be unreadable, and the whole impression is just poor. ¶ I thought briefly of the Goodyear blimp's electric message sign, but No. Unless you could afford to have the blimp say nothing but "Fiawol" for its entire pass over the city, your message would be lost in the tire ads. And weather is just as much a problem for the blimp as for the skywriter. (By the way, did you hear about Goodyear's plans to build a new blimp, using high-efficiency light-emitting diodes instead of incandescent bulbs? They're calling it the led zeppelin...)

Westech: That reduction Xerox really isn't saving all that much paper or money, it takes extra time to do, hurts repro quality (since it's a two-step process), and is somewhat hard to read. Why don't you just do 1:1 copying like most other people? And when are you going to get an issue out on time?

Gordon: Congratulations on the job at Cray Labs, you lucky person.
Nice meeting you at Comic-Con.

--- end of mailing comments ---

WESTERCON 33

(Or: If you were bumped from your room, thank a teacher)

Westercon is, of course, the big regional out here. It's held in various cities, alternating between the northwest and southwest regions of the country; local groups bid for the con two years hence, just like a mini-worldcon. But you probably know all that already.

The Los Angeles crowd has a reputation for throwing good Westercons. The one they did in '78, for instance, was one of the best cons I've ever attended. I wonder what went wrong this year? Westercon 33 was almost as dull as last year's edition (which, if it hadn't been held in an interesting city like San Francisco, would have been a complete waste of time).

And things were not helped much by a major hotel screw-up: Many members of the National Education Association, which had held its annual national gathering in LA during the preceding week, had decided to stay over the fourth-of-July (i.e. Westercon) weekend. Result: Large numbers of fen who thought they had reservations were shunted to other hotels -- most commonly the Airport Marina, about five minutes away by car. To put it mildly, this put quite a damper on the late-night parties; I don't know about you, but when I'm facing a drive instead of an elevator ride to get to my room, I tend to go to bed a whole lot earlier.

Oh, well. On the positive side, I got to meet Renee, Tullio, Keith, Michelle, and Marty (and probably a couple of others whose names I've forgotten -- sorry!). Hope you people didn't get too bad an impression of California. I watched twenty-two friends of mine impress the hell out of the masquerade audience -- including GoH Roger Zelazny -- as the entire royal family of Amber (yes, Renee, I know, the presentation got off to a rotten start, but the costumes more than made up for it). I renewed a friendship with a very dear friend, who in turn helped me over a kind of personal hump. And I ate some good and some not-so-good food, swapped a few dozen terrible puns, and got a lesson in Californish slang from the Midwest types. Who cares if the con's program was dull? Who cares if the dealers were crammed into little bungalows that should have been used for the fan room? Who cares if the hotel took a dim view of room parties?

Well, I care, actually. The con could have been much better. But I had a good time nonetheless. Are any of you coming out for Westercon '81 (in Sacramento)?

HANRAHAN'S HACKLES

This will be an ongoing column, devoted to things that have really annoyed me at cons. Constructive criticism will be offered when I have some, but sometimes I'm just going to bitch.

1. When will concons realize that everyone wants to see the masquerade? Limit membership, or use a bigger hotel. As a last resort, use a ticketing system like Iggy used for the Hugo presentations. A pain, to be sure, but better than having a flood of 2n people racing for n seats.
2. If a function room is hot and stuffy, people will be bored, on-edge, impatient, and unappreciative, no matter how well the thing comes off.
3. The purpose of a PA system is to get a clean copy of the speaker's voice to all corners of the room at a comfortable listening level. Few things annoy an audience more than having a distorted voice blasted into their ears. Most people don't know how to use a microphone; they insist on trying to swallow the damn thing. You don't have time to teach them differently, so use mikes that are designed for close-talking, and put a thick foam wind shield over them. If possible, put the amplifier controls near the back of the room, so the operator can adjust them for the audience's benefit and not for the announcer's. (If the speaker can hear his or her own voice coming from the PA system, it's probably turned up too loud.) Failing that, have someone go to the back of the room periodically to check sound level. Best solution of all: Use a volume compressor to ride gain automatically.
4. When negotiating with the hotel, see if they won't agree to charge anyone who's not one of your members full price for a room -- even if they're a stay-over from a previous con. I'll bet 90% of all stay-overs would go home if the hotels wouldn't extend their convention rates for their entire stay. Sure, fans like to stay extra days too sometimes... but a room for just the convention is better than no room at all.

COMIC-CON

Sigh. As you may have inferred from my comments to Gordon, Comic-Con did get in the way. Here it is, the fifth of August. Looks like I'll be doing another postmailing.

Oh, well. I have another con to (briefly) write about. I'm not really into comics (except for Elfquest), but the San Diego Comic-Con is the only local fannish con of any sort, and San Diego fans of all flavors attend. They usually have a good list of films and at least some programming that's not aimed just at comics fans. This year's Comic-Con was fairly good, highlighted (from my point of view, at least) by our group's winning first prize for "Best Re-Creation" in the masquerade (we had over a dozen people in Star Blazers uniforms), by meeting Gordon Garb (he spotted my GT T-shirt), and by my getting thrown out Saturday night by a convention center employee who took a dim view of our rearranging the letters on one of the signs...some people got no sense of humor.

THE GT INFORMATION HANDBOOK

This project really is getting off the ground this time, folks. As you must know by now, I (foolish person) have volunteered to do the text entry and typesetting. Of the 120 persons on the current Mob list, I've received new questionnaires from 55, old questionnaires (via Jeff) from 35, and nothing from the rest. I won't mention names because most of the non-respondents aren't in APA-Tech anyway, and of those who are, I know damned well that if I post your names here, your q'aires will show up the next day, so I will be exposing you to public ridicule for no reason. But that doesn't mean you've been excused; Jeff and I will bring a stack of blank forms and a large club to the GT meeting at Noreascon...

Seriously, I have most of the new q'aires entered already. I'm holding off on the old ones until I'm sure that their authors won't be sending updated info. (I really dislike spending time to key in data that I know is a year out of date.) Of course, this will not be done by Noreascon as we wanted, but it won't be too terribly long after that, I promise you.

SIX PAGES??!

Those of you who notice such things may wonder why I went to full-size repro for this issue. Well, there were lots of reasons -- most of which I mentioned earlier in the MC's. ~~Besides, I usually don't have a whole lot to say, and if I don't reduce it, I can't fit up more pages.~~ But a funny thing happened; I seem to be more prolific when I know that what I'm typing is pretty much the final copy. I also seem to be a bit less formal and more relaxed. I think I'll eliminate the reduction for good.

Who knows -- maybe I'll actually get an issue out on time, next time. Fare well, and see you at Noreascon.

THE QUINTESSENTIAL SINGULARITY 7

20 July 1980 for APA-TECH 8

being a journal of complex, imaginary, and irrational studies

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Where Equatorial Circularity is Maintained: Western Union Glenwood Earth Station, Vernon Crossing Road, Vernon, N.J. 07462
(201-764-4026)

Good Heavens! In about a two-week span, we've had an enormous Anniversary APA-TECH (now weighing in at 120 pages) and a 26-page Pyrotechnics. This must be what happens when they let you kids out of school for the summer (and I do mean "kids": after reading Pyro 24, I feel I must be one of the Old Men of GT, having passed 27 last May). This truly impressive display has led me to hold my Semi-Annual and Pre-Worldcon Clearance. Yes, I've just had a look at my file folder for this month and it looks like another overblown issue of QS is at hand (I'm afraid to see the Xerox bill...).

But then I may soon be able to afford such things. My supervisor told me recently that, with training of personnel for Westar IV beginning imminently and installation of equipment to start in '81, they'll be needing a fourth Orbital Dynamicist. Apparently, I shall be this individual around January; it will mean going to a normal five-day work week with about a 20% salary increase. I guess that's acceptable... After No. 4 has established itself comfortably (launch is in January 1982), I plan to head for another job. Since NASA doesn't have many probe missions scheduled for this decade, I'm going to take a shot at lodging myself into the Space Telescope Institute (which should exist by then) or the Shuttle organization. If I bounce off, I'm going to try the planetaria again or go back to graduate school, assuming I'm not scratching QS 20 on the backs of turtles at the bottom of a glassy crater...

After I got QS 6 back from the printer in Princeton, I decided that my old SCM 250 typewriter just wasn't doing justice to the quality of the copying. Text made with a cloth ribbon doesn't seem to reproduce well once the ribbon fades a bit. Hence, I am stepping back up to carbon-film ribbon on a Correcting Selectric II, the use of which I can occasionally arrange. This is as high as my technology will get for a while. After Noreascon, I will be saving up for a snazzy gadget for perhaps next summer. I am seeking advice regarding splendid and worthwhile computer/text-processors which are expected to be available next year. Any hot tips?

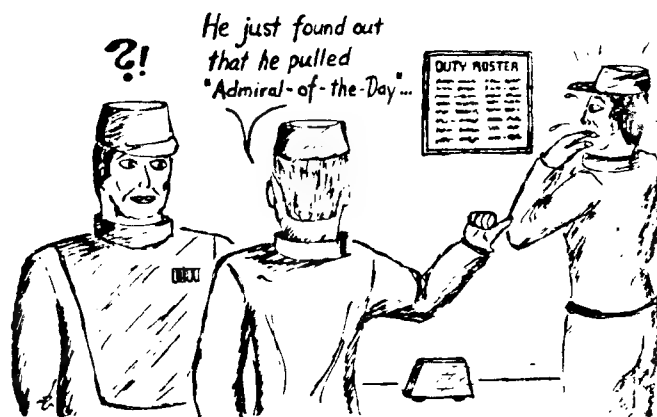
Since I've been spending a lot of my free time studying orbit determination and spacecraft dynamics, so WU will want to promote me, and catching up on umpteen magazine subscriptions, I haven't gotten much farther on a Niven review yet. I did finish The Flying Sorcerers last month and thought it a pretty good novel, as well as an incredibly sly in-joke. I have to say, though, that I'd never expected to find a paraphrase of Eliot's "The Hollow Men" slipped in...

GTB prepared a glowing history of APA-TECH last time; all of this good cheer conceals a sinister side, however. One must ask: where do we go from here?

Let's look at the available data (p represents the number of contributors on the active roster; N is the total number of pages submitted):

AT#	p	N	log p	log N	log (N/p)
1	8	17	0.903	1.230	0.327
2	13	43	1.114	1.633	0.519
3	16	43	1.204	1.633	0.429
4	18	69	1.255	1.839	0.584
5	17	78	1.230	1.892	0.662
6	21	87	1.322	1.940	0.618
7	21	118*	1.322	2.072	0.750

*this study conducted before publication of westech #2



If we neglect the first data-point as a transient to the present state of growth, we obtain the following logarithmic least-squares fits:

- (1) $\log p = 0.0391 + 1.065 \cdot r = 0.930$
- (2) $\log N = 0.0901 + 1.428 \cdot r = 0.971$
- (3) $\log (N/p) = 0.0511 + 0.362 \cdot r = 0.861$

where r is the issue number. The fits show a high level of correlation. A graph of the data and least-squares fits accompanies the text.

What extrapolations may be made from the above? It is clear that the Second Anniversary Issue (#13) would have 37.3 contributors and 396.3 pages. Assuming GTB's new stapler can handle up to 200 pages, it is estimated that this device must fail before issue #10. In April 1982, the world will be treated to the sight of the first APA with over 1000 pages. The New Millennium will open with issue #131 (Feb. 2001), in which 1.49 million members will contribute 16.5 trillion pages. The entire U.S. population will be responsible for APA-TECH 188 (Aug. 2010), containing 2.6×10^{18} pages; all of humanity will have a say somewhere between #221 and #227 (c. 2016), generating $3 - 5 \times 10^{21}$ pages.

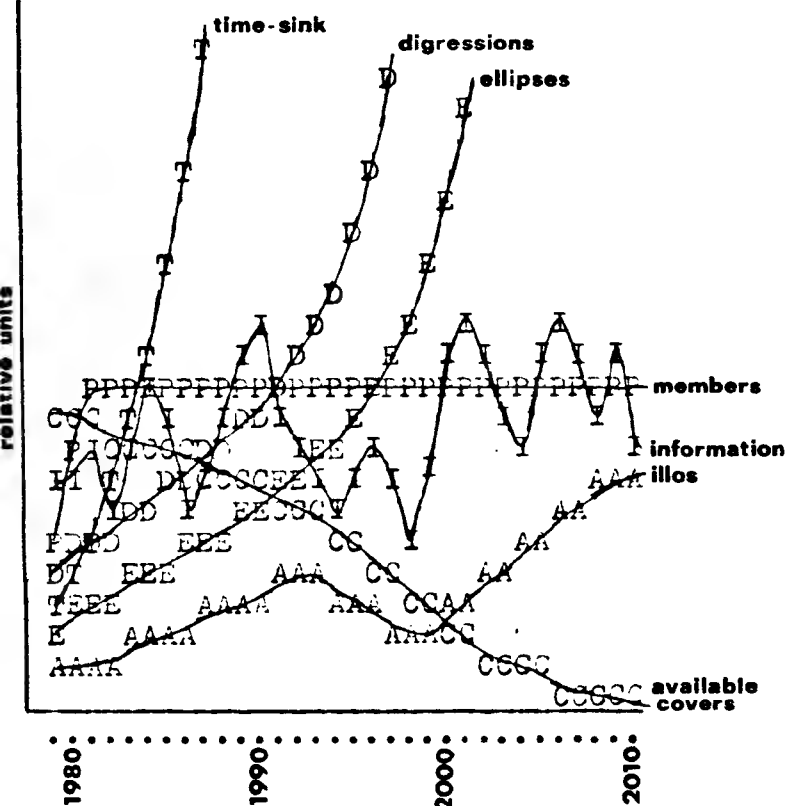
One might argue that such projections are absurd. First, such unlimited growth of page-count would strip the Earth of forests, forcing the construction of large space-freighters to be placed in orbit around Saturn (for some reason) by the turn of the century. Second, GTB would restrict the membership of APA-TECH to 35 people, which is projected to occur by issue #13.

It is granted that the first objection does sound like a pretty silly premise for a movie, but the GTB "solution" would only forestall the inevitable. One's attention should be directed to the rate of growth of (N/p) , the average number of pages per contributor. It may be seen that the value of (N/p) will exceed 10 by issue #13 and will exceed 100 by issue #32. The limitation of membership in APA-TECH to 35 modifies equation (2) above to:

$$(2a) \log N = \log (N/p) + \log 35 = \log (N/p) + 1.544 \\ = 0.0511 + 1.906 \cdot r$$

This does nothing to save GTB's stapler from obsolescence. The APA of 1000+ pages becomes #22 (Dec. 1982). The first issue of the 21st Century would still contain 440 million pages.

Efforts to control page-count such as those recently employed in QS and elsewhere only reduce these pagination projections by about a factor of 2. Note the extrapolations below, utilizing an APA model of restricted membership and increased forest productivity:



To avert ecological and personal catastrophe, it is obvious that harsh measures must be implemented. In the future, long-winded and meaningless studies such as this must be eliminated to stave off planetary disaster.

The author acknowledges the grant of a bottle of ink and some graph paper from O-on-P, Inc. The CSR wishes it made clear that it had nothing to do with this.

In defense of ellipses: There have been voices raised of late against the appearance of all those little dots after certain contributors' sentences. May I offer a word in favor of them? I tend to write the way I talk (when I feel comfortable about both), so I have certain rules which I stringently observe in the use of ellipses. The ellipsis is to be used: (1) when I would not use a full stop in speech; (2) as an implicit "hmm"; (3) to suggest to readers that they may complete the sentence as they wish (or make the obvious wisecrack); or (4) when I feel like it. I hope this serves to clarify matters...

I have been conducting a search for some time for what is known as "technological folklore", i.e., Murphy's Laws and the like. I am trying to amass a compilation of all such "laws". I recently came across a more complete list of "Ground Rules for Laboratory Workers", which you might enjoy (perhaps even if you have already seen it):

- (1) When you don't know what you are doing, do it neatly.
- (2) Experiments must be reproducible: they should all fail in the same way.
- (3) First draw the curve, then plot the data.
- (4) Experience is directly proportional to equipment ruined.
- (5) A record of data is essential: it shows that you have been working.
- (6) In case of doubt, make it sound convincing.
- (7) Do not believe in miracles: rely upon them.
- (8) Teamwork is essential in the laboratory: it allows you to blame someone else.

Some of these also go under someone's name as a "Law". There is a poster which provides an assortment of these rules, under the heading, I believe, of "Murphy was an optimist". There is also a delightfully cynical book which discusses this lore, as it applies both to scientific work and to bureaucracies; it offers a thorough bibliography and gives a great number of laws and definitions you may not have seen elsewhere. The book is *Malice in Blunderland* by Thomas L. Martin, Jr. (New York: McGraw-Hill, 1973); it contains the chapter headings of "Klugemanship", "Hierarchiology", "Status Quo Vadis", "Fuglemanship", and "Academocracy". I'm not sure if the book is still in print (I picked up a discounted copy). Does anyone out there have any less-familiar "laws" to offer?

Did someone mention anagrams? (Oh yeah, it was me...) Omni (which I can't stand, but it was sitting in the control room) ran the results of an anagram contest in the July issue. I wasn't that impressed with most of their prize winners (some had been previously discovered), but there were a few I thought were cute or clever:

THREE MILE ISLAND -- I'm in lead shelter.
DR. ISAAC ASIMOV -- I avoid sarcasm. (Indeed?)
TELEVISION SET -- I've one. Let's sit.
CHARIOTS OF THE GODS? -- It's good for the cash.
THAT'S ONE SMALL STEP FOR A MAN -- NASA tramples the moon flats.
ONE SMALL STEP FOR A MAN, ONE GIANT LEAP FOR MANKIND -- NASA P.A.: "All is fine. Men and LM OK. Prefer moon to Tang."

Another Bill H. (not Bill-Aytch) and I were in an anagrammatical frame of mind a couple years back and came up with the ones below (we permitted the pluralization if we needed an extra "S"). For ASTRONOMER(S), the standard anagrams are "moon starers" and "no more stars"; we also came up with "O, Mars noter!", "O, ne'r to Mars", "Re: Moon, stars", and "Toro's namers". A double anagram which was very much on our minds, as grad students, was "Smarter soon -- or no Master's!" Then, of course, there were all the silly ones:

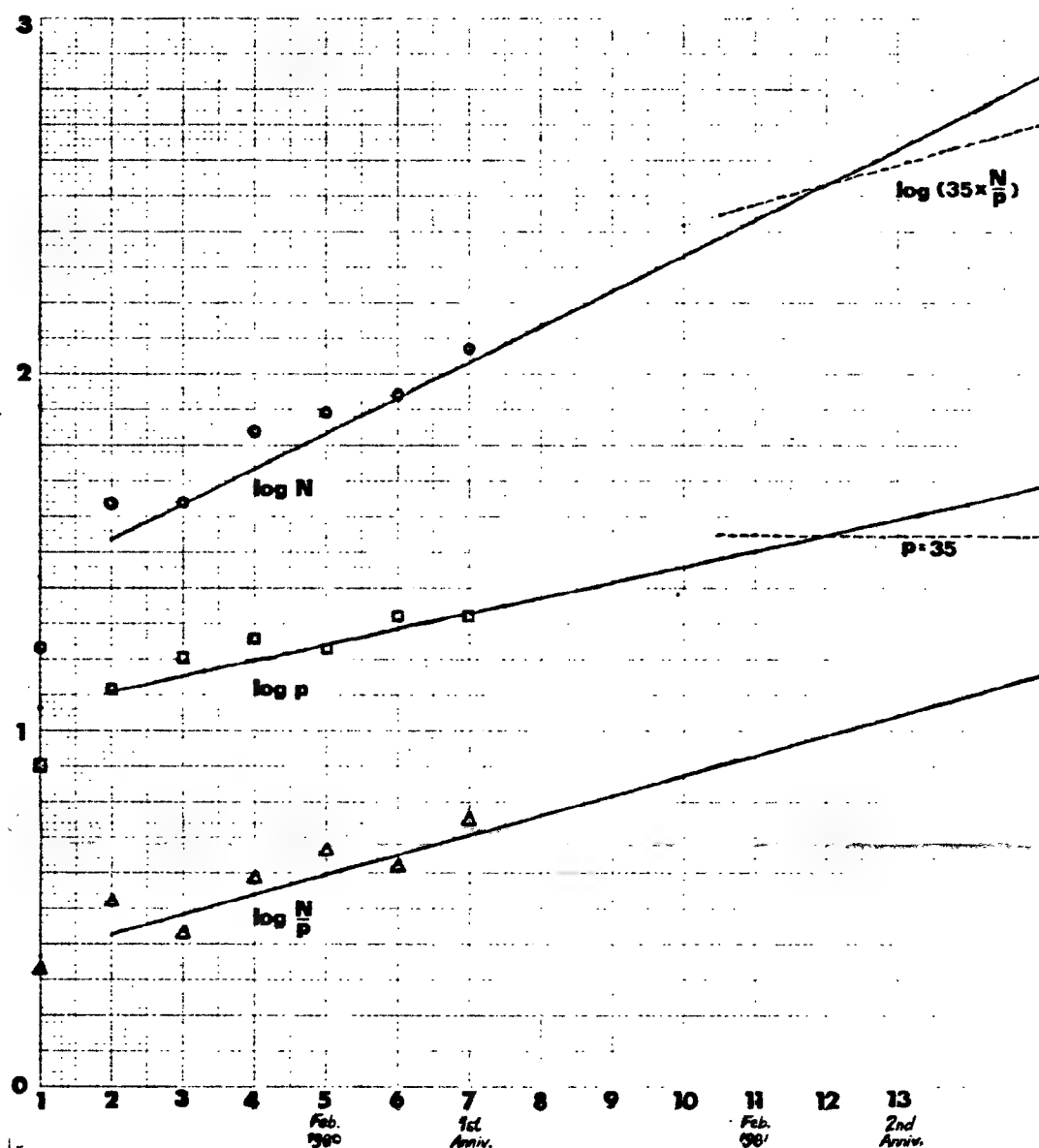
Roman store	moaner's rot	Roosterman!
Mr. Roast Nose	monster oar	morons stare
stone armor	moron rates	most on rear
No ears, Mort!	store on Mars	Mars rots one
Oman resort	No rest -- roam!	Soar on, Merti
sore at morn	rose at morn	Eros at morn
sore at Norm	sore on tram	as no tremor
or most near	no rose mart	storm on ear

At that time, the solar neutrino problem was much on our minds. One suggestion was that the fusion core of the Sun has shut down temporarily. Thus, we developed an anagram for ASTRONOMICALY: "Calm solar int. -- Oy!"

I recommend to the interested anagrammaticist a book entitled *Palindromes and Anagrams* by Howard W. Bergerson (New York: Dover Publications, Inc., 1973), which has been mentioned before. Anyone care to contribute some obscure items?

As long as the subject of "head music" is still bouncing around, let me rummage through my records file and list some more unusual "classical" works (mostly contemporary). By the way, would someone mind giving me a clarification of the phrase "music that produces an altered state of consciousness"?

Albright	Organbook II	(Nonesuch H-71260)
Berio	Sinfonia	(Columbia MS-7268)
Bolcom	Black Host	(Nonesuch H-71260)
Crumb	Black Angels	(Turnabout TV-S 34610)
	Lux Aeterna; Four Nocturnes;	
	Dream Sequence	(Odyssey V-35201)
Davies	Vesalii Icones	(Nonesuch H-71295)
Dlugoszewski	Fire Fragile Flight	(Candide CE 31113)
Glass	Harmonica Music -- collection	(Candide CE 31007)
Ives	Symphony No. 4	(Columbia MS-6775)
Ligeti	Aventures; Nouvelles Aventures;	
	Volumina; Harmonies	(Candide CE 31009)
Messiaen	Et Exspecto Resurrectionem	
	Mortuorem; Couleurs de la	
	Cité Céleste	(Columbia MS-7356)
	Turangaflia Symphony	(RCA LSC-7051)
Partch	The Bewitched	(CRI SD 304)
	And On the Seventh Day, Petals	
	Fell in Petaluma	(CRI SD 213)



plot of logarithms of number of active contributors (p), number of pages (N), and number of pages per contributor (N/p) versus issue number (i); least-squares fits for $i = 2$ to 7 drawn in

Penderocki	Threnody for the Victims of Hiroshima	(RCA VICS-1239)
	Magnificat	(Angel S-37141)
Subotaick	Touch	(Columbia MS-7316)
	Until Spring	(Odyssey Y-34158)
Takemitsu	Sidewinder	(Columbia M-30683)
	November Steps	(RCA LSC-7051)
	Textures	(Odyssey 32 16 0152)
Tibetan Buddhism	Tantras of Gyütö-Mahakala	(Nonesuch H-72055)
	Tantras of Gyütö: Sangwa Dupa	(Nonesuch H-72064)
Varese	The Varese Album	(Columbia MG-31078)
Muorinen	Time's Encomium	(Nonesuch H-71225)
	Speculum Speculi	(Nonesuch H-71300)

These seem to me most nearly like the music which has been mentioned so far under this category...

Sometime while you're in Boston, you may wish to get something to eat. I don't know what kind of listing the convention program book is going to provide, so I will make my own suggestions, based on those places that sustained during my five years in the area.

First, there are markets if you want to pick up something to nosh. The Star Market, on the ground level of the Prudential Center, facing Boylston Street, is a typical supermarket and usually observes a 24-hour-a-day schedule (except Sundays). For lower prices, you can go to Haymarket Square on Friday or Saturday, when the farmers bring in their produce; it is totally open-air and is one of the city's favorite tourist attractions. Some of the prices drop further toward sunset, when the vendors get anxious to go home. Beware -- a favorite ploy is to place the best-looking merchandise out front and to fill your bag from behind the counter; you have ~~some~~ right to be choosy...

Second, if you want to eat cheaply, the usual chains are to be found all around town, including Brigham's and Friendly's (which I don't think exist in the Midwest). The latter two are ice-cream places that also serve meals.

If you like variety and want to explore, there are clusters of small eateries at Quincy (pronounced "Quinzy") Market, near Faneuil Hall; along Boylston, Newbury, and Commonwealth Avenues in Boston; in the Harvard and Brattle Squares area in Cambridge (especially in The Garage); and in Chinatown. These areas can all be reached by subway.

I just had an interesting phone conversation with my host-to-be in Boston, who informs me that a number of places I used to frequent have changed hands, burned down, or have otherwise been superseded since my last visit in November. So, I won't be able to provide the list of restaurants I'd originally drawn up. I'll be using my early arrival in the city to re-educate myself and expect to be able to make recommendations at the convention. I have also been informed that a subway ride in Boston is now 50¢, up from 25¢; my directions on reaching the hotel from Logan Airport are revised accordingly.

I am repeating my offer of a Dining Tour of the area to span Wednesday through Sunday evenings. One evening of that Tour will demand formal attire (!) as we will be dining at either Anthony's Pier 4 or Locke-Ober, two of the classier joints in town (and the most expensive!). Any of you folks interested in attending part or all of this madness are invited to contact me at any of the addresses given in the colophon, so that I may make the necessary arrangements when I hit town August 24th. I will also conduct a Walking Tour of the Harvard Bridge (343.9 smoots + 1 ear long!), the MIT Campus, and the Center of the Universe (over 20,000 SF-related items!!). There will also be Economic Suicide Squad raids on bookstores, record shops, and the like; a trip to the Museum of Science (OK, so it's not the MofS&I...); and a visit to the Swan Ride at the Public Gardens (yes, I think the GTers will enjoy that...).

"And, as the Voyager spacecraft, in orbit around Mars, runs out of hydrogen gas..." Oh, well, Uncle Walter tried (and corrected himself at the end of the broadcast). I guess it's not news to you now that Viking is all over. NASA fired off the engines one last time to determine exactly how much propellant was left coating the motor walls. This information will be used in the design of future probes, such as Galileo, to reduce the load in fuel to the minimum necessary. The remaining Viking orbiter was low on attitude gas and would have had a brief future at best. If you wish to mourn the end of four years out of a 90-day nominal mission, bring along the 30 September 1977 and 30 December 1979 "Space Sciences" sections of the Journal of Geophysical Research to the wake. Orbit in peace...

Exciting new crimes are in the news. Tapping of video transmissions relayed by satellite is becoming a sufficiently serious problem that "scramblers" are expected to be in use imminently. An analog to the "phone phreak" can then be expected to emerge within the next couple of years. The California "computer-crimes" law was tried out recently on a former civil servant who was altering auto registration records in advance for car thieves for a \$100 fee. Legislators are very uncertain about how to write laws governing these devices without making their use impossible. Add to this the problems raised by attempts to patent recombinant-DNA results and to hammer out a Treaty on uses of the celestial realm. It occurs to me that we're supposed to be among those who're up on all this new science-and-technology stuff. Is there any interest in offering our expertise to hapless lawmakers?

I just finished reading A World Out of Time and was somewhat bothered by repeated remarks that a Bussard ramjet has no practical upper speed limit (except that of light, natch). After all, the electromagnetic ramscoop is not a particularly "aerodynamic" shape and plowing through interstellar gas and dust at relativistic speeds is bound to induce a lot of drag. I've done a crude analysis of the situation in terms of momentum. Consider what happens to a one-centimeter square sweeping through interstellar space with velocity v . In one second, it passes through a rectangular prism with a length of δv cm., since we are concerned with the time in its rest frame (δ has the usual meaning). The density of gas shall be denoted by ρ . The momentum of a body with velocity v is $\gamma m_0 v$, where m_0 is the body's rest mass. The total rest mass swept out in one second is $m_0 = \delta v \cdot 1 \cdot 1 \cdot \rho$, so the momentum striking the front of the square is:

$$p_f = \delta \cdot \delta v \rho \cdot v = \delta^2 v^2 \rho.$$

The ramship is generally taken to have a fusion drive, which permits us to specify the amount of energy generated from a given amount of fuel. Assume that the fusion engine uses the most energetic reactions and that all of the released energy is converted to photons (giving us an exhaust velocity of c). The most energetic fusion reaction for hydrogen into helium releases about .007 of the hydrogen's rest mass, or $.007 \cdot m_0 c^2$. If this is released as photons, the momentum is energy divided by c , or $.007 \cdot m_0 c$. For the one-cm. square, the reaction momentum produced is:

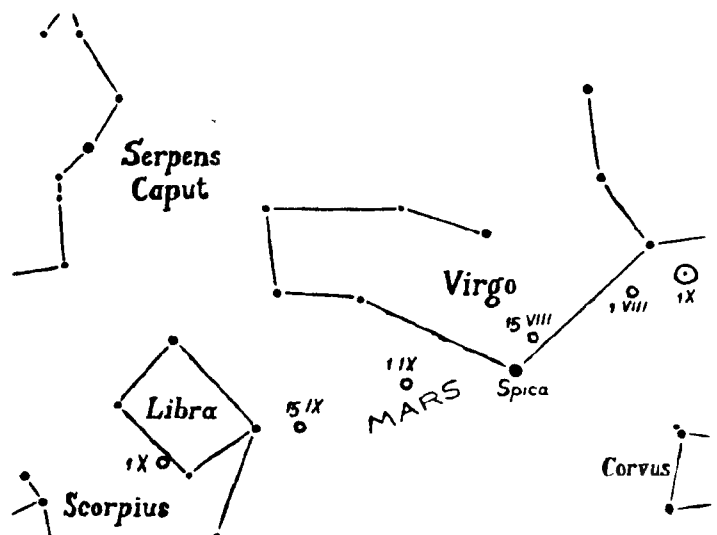
$$p_r = .007 \cdot \delta v \rho \cdot c.$$

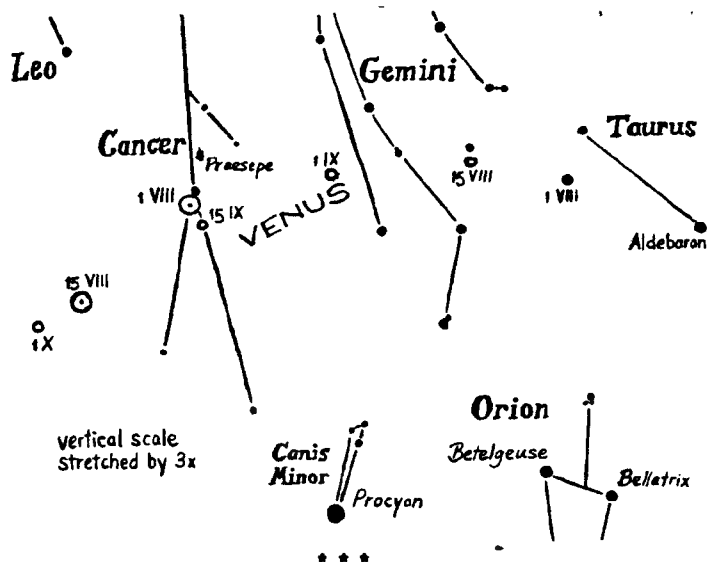
One can see that the momenta are equal for $\delta v/c = .007$. Recall that $\delta = 1/\sqrt{1-(v^2/c^2)}$; one thus finds that the momenta balance for $v = .083c$. Notice that this result is independent of the gas density. One can also add in the effect of dust grains, given that they have radii on the order of 10^{-5} cm., densities of about 3 gm/cm^3 (and thus, masses on the order of 10^{-14} gm.), and an ambient interstellar density of about 1000 grains per cubic kilometer. The contribution by dust is found to be relatively minor.

It looks to me as if drag is a very serious problem for this ship design. I haven't found any simple way around this difficulty: at some point, the gas must be brought essentially to rest with respect to the ship. Has a more thorough analysis of the Bussard ramjet in realistic conditions been published anywhere?

What is the apparent path against the sky of a geosynchronous satellite? I know -- trick question: it doesn't have one 'cuz it's stationary. That is true under ideal conditions, where the orbital period is exactly one sidereal day and the orbit is exactly circular and in the Earth's equatorial plane. But no one can really drop a satellite into a perfect orbit and the Sun and Moon are always pushing it around anyway. Given all of these considerations, the standard answer, when I ask folks at work this question, is that the path is a "figure-eight". I sat down to work out just what this looks like for various orbital conditions and obtained nothing of the kind. I can't even find a convincing physical argument for the "figure-eight". Some of the people I want to speak to about this are presently on vacation, so I withhold my presentation for QS 8. In the meantime, can anybody out there justify the "figure-eight" or otherwise show what the path should be?

Jupiter and Saturn have had it for the next couple months: the Sun had finally caught up with them, so they won't be visible as morning "stars" until October. Mars will be quite low in the southwest at sunset and will become increasingly difficult to pick out as we head into autumn. For you early risers, Venus is an excellent morning "star". It will be rising about four hours before the Sun and will be found quite high in the east at sunrise. It attained maximum brilliancy on July 21st, but will continue to be the brightest object (outside of the Sun and Moon) until November.





QUICK NOTES: In case you were wondering where Robby the Robot has been lately, you could have picked him up at the "Great Sci-Fi, Fantasy & Horror Movie Memorabilia Auction" back on June 16th. Some 650 items were up for sale, including the Superman costume from the old TV show and the "Forbidden Planet" force-field posts.

MITSFS is apparently undergoing a big Niven revival, to judge from *Twilight Zone* #33. There is a one-page ad for items available from the Sporting Goods & Apparel Division of Specific Products, including Puppeteer Gloves, training shoes for Bandersnatch II, and a Kdatlyno Earmuff. I'll bring my copy to Boston, or you can purchase one at the MITSFS Library. By the way, if you're an autograph seeker, the Library should be a good place to hang out; the Society will probably drag as many authors and other notables over as they can manage. And, as long as they're signing MITSFS' books...

I wish to retract something I said earlier: RCA has had previous experience in satellite building. They finally announced the results of their own study on the fate of Satcom III. As we'd suspected, they concluded from the available evidence that the most likely event was that the apogee motor blew up. (see *Electronics* of 17 July)

Well, maybe the Sun isn't dormant, after all. Three recent items may lead to a re-assessment of certain claims. First, the recent discovery that neutrinos may have a small rest mass (and hence change state) may show why Davis' tank of cleaning fluid hasn't been seeing enough neutrinos. Second, a News Note in the July *Sky and Telescope* discusses some new re-evaluations of Eddy's study of solar shrinkage. Briefly, analyses employing measurements of transits of Mercury since the 1720's show the solar diameter to be essentially constant. This result is independent of the deteriorating atmospheric transparency over the last two centuries, which affects the measurements of time for the Sun to cross the Greenwich and U.S. Naval Observatories' meridians. Lastly, a study cited in *Science News* of 5 January indicates that Northern Hemispheric average temperatures correlate far better with volcanic dust emissions than with sunspot fluctuations and events like the Maunder minimum.

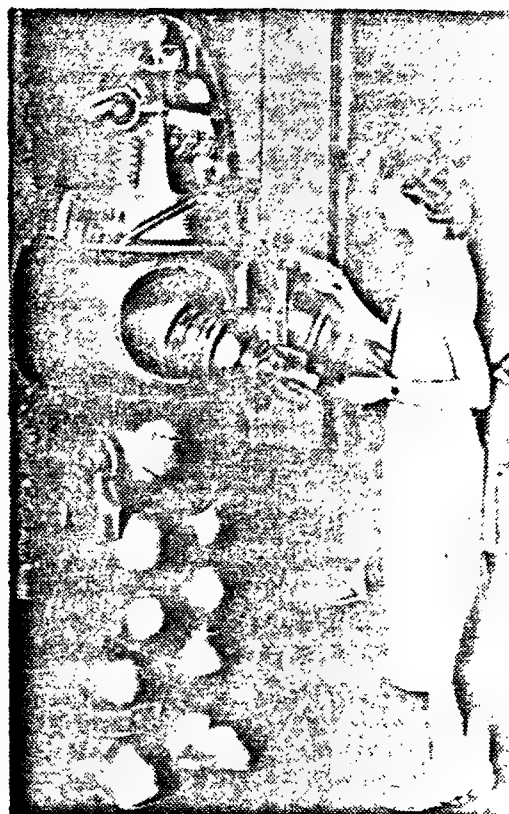
OK, so it wasn't Cygnus X-1... Another note in the current *Sky and Telescope* mentions a suggestion that an extended radio source in Cygnus known as CTB 80 may be the supernova recorded by the Chinese in 1408. The object shows characteristics of a young supernova remnant, whereas Cygnus X-1 has no extended radio emissions. Unfortunately, the position of the supernova cannot be determined very accurately from known records...

POLES OF ORDER 1 -

THE COVER: Beautifully rendered, even if it is an old movie. But where's the Stargate? (heh heh)

555: I must point out, in all fairness, a technical inaccuracy in your History. I had no connection whatsoever with "Farmail from Some Flounder" in #5. I did give it an alternate name in my comments, but that scarcely bears repeating...

I do not feel it is fair to state that the issues have increased in size due to my material. My own contact with APAs in Boston suggests that these communal efforts usually take about four issues to take fire. Everyone here has had a hand in making APA-TECH the success it is and I can honestly say that I have found something of interest and enjoyment in every contribution to date. (I guess what I'm trying to say is: thanks for the flattery, but I'm not the only gabby one...)



Associated Press Photo

A TV newswoman 'interviews' Robby, the robot from 'Forbidden Planet.' Robby was on sale at a science fiction auction in Los Angeles yesterday.

Monday, June 16, 1980/THE COURIER-NEWS

Congratulations on breaking the 100-page barrier! I am glad you have not yet had to resort to heavy-industrial methods to keep the body of this APA whole.

THE BOLD-FACED MUBETAN: I am rather saddened to continue to hear of all the behind-the-scenes troubles experienced at Whatcons; it seems that most of the people who do not have fun are those who helped make it pleasant for everyone else. (There seems to have been a bit of personal friction developed as well, alas.) All this leads me to believe that Whatcon shall be no more...and I'll never make it to Chabanacon if they continue to meet on Thanksgiving weekend. 700 members?!

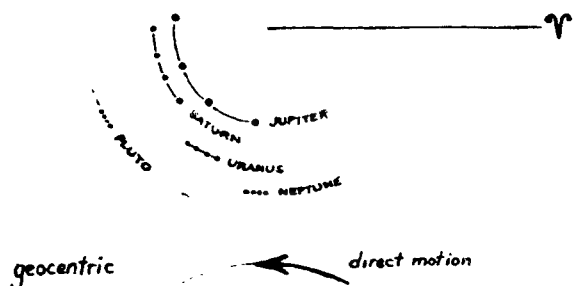
I suppose that ad in *Kilobaud* illustrates the inevitable technological step beyond computer dating... (Some people's tastes are just too weird for me.)

INCORRECT THOUGHTS (everything, you know, is wrong): One of my friends in ChUSFA felt that *The Third World War* was a nice bit of NATO propaganda, as disaster is averted in the book through means which could just now be initiated (i.e., if we put in these systems today, we won't have Russians strolling the Champs Élysées in five years). He seemed to consider it a work of salesmanship. I can't argue this personally as I haven't read it yet. Another SPI game which is directly related to this matter is "The Next War", which has to be one of the largest wargames ever manufactured, along with their "re-fight World War II" games.

BY JUPITER: This is one of those ideas that, once unleashed, never seems to die. Gribbin and Plagemann disowned their thesis a few years ago in the professional journals, although the publisher never saw its way clear to withdrawing the book. The "Jupiter effect" argument goes something like this. An earlier researcher suggested a correlation between major planetary conjunctions and increased solar activity. Such an increase, through the solar wind, has an effect on the Earth's magnetic field. There is some correlation between "glitches" in the magnetic field and glitches in Earth's rotation rate. There is also some correlation between glitches in rotation and earthquakes. Where the correlations are cited, there is no presently understood mechanism. This is really "science by statistics", but one does have to start somewhere... Anyway, a year or so after the book appeared, this other researcher had collected more statistics and decided that his correlation was no longer statistically significant. G & P, realizing the rug had been snatched from under them, relaxed their stance on the matter. I can respect their integrity for this; my feelings toward the book sellers is another matter... All of this was reported in Science News back in 1977 or '78. Of course, if LA and Frisco vanish in a crash of masonry in 1983, someone will say, "You see!" More on science and "proof" elsewhere. By the way, the "grand alignment" is not as tight as all that:

heliocentric

distances are NOT represented in these maps



geocentric

direct motion



angular positions
of planets from 1981-4;
dots represent positions
on successive January Firsts

KWIP*1: Sorry that I couldn't give you an appropriate greeting in the last issue. I had one planned and was going to draw it in, until I got the rest of my text laid-out. I barely made it onto page 8. Gee, and after you gave ME your Very First Mailing Comment. (I'm sure the fact that my line happened to be first was but a staggering COINCIDENCE...) I recently priced Ropidograph pens and that is why I'm doing this with a new set of TEN NIBS!!

KWIP*2: Has Fort Collins any other claims to fame besides WWV and yourself? I don't know too much about the region between Wheatland and the Rockies...

Do you perform "classical" piano, jazz, or what?

You hear some rather interesting remarks on stations that have only occasional "classical" programming, especially if the on-air announcer usually does rock... I always liked the closing words of one person I heard in Boston: "That was... Richard Strauss... and, uh, his number, 'Also Sprach Zarathustra'." I half-expected to hear, "— now, climbing to the top of the chart, Arnie Schönberg and the Twelve-tones don't his 'Pierrot Lunaire', this week's number FOUR Four four..." One thing I like about living near New York is that we have three full-time "classical" stations and about eight more that play some classical and jazz.

I like your little cartoons which pop up here and there. Could you publish the plans for your electronic "cuckoo" clock?

CONVEYOR OF CATEGORIES: Sneak! Here we are, thinking you're engaging us in intellectual debate and it turns out you're collecting material for a story! We-ell. Sounds interesting -- good luck with it!

I'm not sure that an interstellar empire several hundred light-years in extent would still be dependent upon home-based industry. You may need to find a convincing reason why the colonies wouldn't simply detach themselves. After all, there are on the order of 300,000 stars within a sphere of 100 parsecs in radius.

Some of your premises may have to be modified. A decrease in Earth's albedo is needed to end an ice age, which is why these events are thought to be so persistent. Cloud cover increases atmospheric reflectivity... The mechanism of aging is not well understood, so its connection with ozone and toxicity may be hard to justify. Your incorporation of a Veliokovskian concept is an interesting approach, but I don't believe tidal effects would spontaneously precipitate a planetary cloud cover. (Hmm, yes, both of you Smiths must think I'm a horrible ogre who enjoys quashing speculation...ah, well.)

I sometimes wonder if the Neanderthals really did become extinct. Is it possible that their descendants are still represented in the human race in some way?

SMITH'S LUMINOUS HAZE: I'll agree with your proposal, although I voted against any extension of deadlines in the survey. My concern is only that the deadline be strictly observed where over 20 people are involved. Otherwise, it will become very tough to keep this activity organized. (I tend to procrastinate, too, but one must learn to accept the penalties...)

A RENT IN THE CONTINUUM: Don't I know you? Seems I've heard your name somewhere, or saw you hanging around the corner of Third and Staughton...

Your double-walled Dyson sphere would need a lot more air, in the absence of gravity, in order to maintain proper air pressure. We may be able to survive without gravity, but we still need something near 15 psi. At 1 g., virtually all our air is within ten miles of Earth's surface. You'd need to generate even more gas or make your thin, spherical room narrower. But if you can build Dyson spheres to begin with...

Personally, I think the pace of technological development will maintain its present rate or even accelerate, though not necessarily in existing fields of endeavor. The increased ease of communications and information access available to a worldwide technically-oriented population of some tens of millions may lead to a massed assault on human problems of proportions amazing even by contemporary standards. I expect a world twenty to thirty years from now which will be quite alien to the present one. My personal interest is in establishing methods of mass education to increase human flexibility. To miss this may lead to a severely disoriented lay population, with unguessable social consequences. Humankind must be made to understand what science and technology can and cannot do and to think critically for themselves. Whoop -- thanks for the use of the lectern...

BILLS AND MORE BILLS: Thanks for the lucid description of the BCS theory. Does this theory predict an upper limit of temperature for the effect or is the math utterly hopeless? If you make the atoms too light, wouldn't the lattice distort too much and inhibit the effect by destroying the regularity of the potential, changing the free electrons' environment? I have the impression that a current would flow spontaneously once the proper temperature is attained: is this reasonable? Do I sound like I have the vaguest notion of what's being said??

THE ECTAGONA AND THE AGASY: grumble, grumble...I don't know if I care for these syndicates that show up at our nice, "friendly" art auctions. It sounds like you had a good time at Whatcon, I think. (But then, it always sounds like you have a good time at conventions...)

At least you got to see TESB all the way through. The second time I went, with a cousin, the plumbing has burst on the far side of the theater, fire trucks had surrounded the building (they had pressure sensors in the alarm system), and the Management chased us all out 45 minutes into the flick. So picture about 500 people making their way to the exits, obtaining individually initialled "rain checks" (almost literally in this case) as they departed. How we escaped violence still amazes me...

THE OTHER SINGULARITY: Hope the new job agrees with you!

UNCLE DAVE: sniff...I can't help it...I always cry at weddings... I think it's safe to say that this crew is not totally electronocentric -- we're a fairly mixed-up bunch.

THE PASSWORD IS AUSTAUSCH: Ah, more fun with faith vs. reason... As far as I'm concerned, occult matters are a matter of religion where they deal with the intangible and immeasurable. Belief is half of everything, anyway (Is that hissing I hear?).

I'm curious about your remark on Copernicus; what exactly do you mean? There are a great many ideas about our Great Scientific Thinkers which do not bear up under historical scrutiny. His justification for a heliocentric universe was purely metaphysical, incidentally; all of this is going into my "science vs. occultism" tirade...

PEOPLE BUILT LIKE BRICK SYNCHROTRONS SHOULDN'T WEAR GLASSES: Any chance that certain strategically-placed lights in the Sears Tower could be left on overnight? Banner-towing sounds like a good way to hedge your bets, especially if skywriting depends so critically upon good weather (assume Murphy has read your article). You may also want to consider renting one of those blimps with the light-boards on the underside; the message displayed could be of indefinite length.

POLES OF ORDER 2 -

THE BOLD-FACED MUBETAN: Color Xeroxing costs 75¢ to \$1 per copy in these parts. The cover was hand-colored (as Dave Levine has learned, to his horror). I was really afraid the yellow marker wasn't going to hold out...

DETECT ME BY VISUAL AND TACTILE MEANS...SOME MORE: Thank you for your kind remarks. I felt compelled to find some way to reduce the ol' page count to cut costs, particularly with the Age of 20¢ Letters about to descend upon us in a flurry of snappy new commemorative stamps...

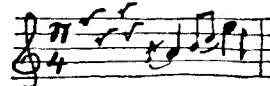
INCORRECT THOUGHTS: Oh, I've seen Robot Monster, too; I just wanted to mention something comparably appalling. I recently came across the Medved Brothers' "Golden Turkey Awards" book (Harry co-authored The Fifty Worst Films of All Time). These works really "plumb the depths" of cinema. Yes, Robot Monster is discussed in both books, but "Turkeys" reminded me of an even ghastlier film: Plan Nine from Outer Space. This one was absolutely painful to watch; it's the only film I've ever walked away from after 20 minutes, and I have sat through bombs!! Seeing Bela Lugosi in the twilight of his career left me absolutely heartsick. Locate a screening if you're ever in need of a stomach pump...

I've seen both the FORTAN Coloring Book and Prof. McSquared's Calculus Primer. The problem with this "cutesy" approach is that the instruction and the cartoons stumble over each other. A smoother technique is used in the Pantheon Press "For Beginners" books on Einstein, Freud, Lenin, and Marx. The Marxist slant in these little volumes is very evident, but they are nicely-executed introductory books in this style.

BY JUPITER: The job is usually very dull, but I bring things to occupy myself... Thanks for the reading suggestion -- I'll put it on my list (oh, stop giggling, Rolf!).

KWIP #1: I don't know if Nancarrow's Studies for Player Piano include one where all the keys are depressed at once. The recording I have only has six of his pieces. The only "hard" copies of the music are the piano rolls themselves. This allow him to set the two "hands" against each other in ratios of irrational numbers for some pieces. How in heck would you notate THAT?!

Have you ever heard or seen the score for the piano music of Charles



Ives or George Crumb? Ives used devices such as laying a 14" board across the black keys to play a cluster. Crumb frequently requires playing inside the piano, such as scraping along the wires or plucking them while touching them at certain nodes to yield particular harmonics. And, of course, there's John Cage's "prepared piano", where assorted hardware is fastened to the wires to create unusual timbres.

Have you seen The Definitive Biography of P.D.Q. Bach?

The trouble with naming APAs is that they've been around so long that all the cute names were taken long ago. ZAPA, I believe, does already exist...

KWIP #2: The Conklin anthologies, Adventures in Time and Space, and Voyagers in Time (Silverberg, ed.) were all enjoyable for me. I liked to see all of the different approaches to the problems of time travel.

I have nothing against screwy ideas, unless they're poorly thought through (or, as Niels Bohr said, "I agree that it's a crazy idea, but is it crazy enough to be right?"). But the publish-or-perish situation in Academia has led to the bloating of professional journals with inadequately-based propositions or ideas milked for endless strings of papers. There is too much pressure on faculty members to look busy. I think this is rather sad, as it pollutes the field and makes matters all the more confusing for laypersons...

I think I'm going to argue with you, at least a little. I like Rachmaninoff's Symphonic Dances at least as well as the Rhapsody. And Rachmaninoff isn't always gloomy and depressing...

Piano concerti? Did you say "piano concerti"? How about some more from this century: Barber (1962), Bartók (1926, 1931, and 1945), Britten (1938), Corigliano (1969), Ginastera (1961), and Khachaturian (1936), to name the ones I have. I noticed that the "giants" you listed are all early 20th-century folks. Who do you like AFTER 1930? (or, as some would have it, "You LIKE after 1930?")

One bit of evidence that clobbers the ET theory of pyramid-building and indicates that we did it is that the mistakes are still on display. Before a certain time, pyramids were small and built with steep sides. They kept building larger ones this way until the structure partially collapsed due to too much weight on not enough support. (This is called "learning about scaling problems the hard way".) There is one structure called the Bent Pyramid: the builders must have found about the disaster, because they abruptly reduced the pitch angle they were using. All later pyramids used the shallower pitch angle...



CONVEYOR OF CATEGORIES: Yes, that does hit on one of the important differences: science deals with "How?" and religion deals with "Why?". I'll have more to say about this further up.

It is interesting that you should mention "rules", since the concept that Nature obeys physical laws is one of the basic articles of faith in science. Let me describe a demonstration we gave. For two years, I was a teaching assistant for a course on the history and philosophy of science (which got me interested in philosophies and religions in general, including those which did not lead to science). In the first discussion section of the first semester of the sequence, we played the Father Nature Game (since both TAs were male). The students have a deck of ordinary playing cards; I have an envelope labelled "The Rule". I take a sheet of paper from the envelope and read it to myself. The students must determine what is written on the paper using the cards. They can either "make observations" by placing a pair of cards together at random or "perform experiments" by selecting a pair of cards; they may only ask Nature if such a pairing is permitted (I answer "yes" or "no"). With a good group, the activity of conjecture and refinement can be quite lively. By the end of the hour, and often before, the students feel ready to confront Nature with their Rule. Before time is up, I ask if they're sure they've considered all possibilities. At last, however, as the bell rings, I withdraw the paper from its envelope. It is completely blank on both sides.

SMITH'S LUMINOUS HAZE: UFOs? Oh, you mean marsh gas! You're right, of course: THEY could be spread all over the place. I'm just not convinced that THEY want to talk to us (lower case -- not particularly mysterious)...

THE ECTAGONA AND THE AGASY: I shall have to find out if any of the folks I dealt with at UI did that to the Apple; their analysis of the video output suggested that nothing would help. Of course, if I wait much longer, the question will become moot...

Quick! Now you have to read the Gil Hamilton stories and Neutron Star, said he, bouncing up and down on one foot. (Then try to sort out the history of Known Space in your head!)

Your remark to Bill-EI reminded me of a "Peanuts" strip several years back, in which Charlie Brown computed that he would become an adult (i.e., turn 21) in 1984. He seemed disconcerted, somehow...

LASERGRAM (for Mongo): Survey Ship, Star Ship, Sausage Slicer -- whatever you like. I reckon if we start right away and start scrounging the parts and preparing the theory and debating the philosophy and trading the gossip, we should be ready to go in 120 years. Of course, we'll have to put clones of ourselves on board, since techies have no-- (now you guys have me doing that!). I'm sorry the Postal Service assaulted your copy of the cover (no loss: I'll show you the animated version in due time).

Yes, a zine so thick, you'd be tempted to eat it with a fork-lift (but use a waldo -- you'll want a foot of concrete in front of you...).

My number is 17, natch! I'm just a random Villager... It was not I who put the nails in the Starbow's coffin; the most recent credit goes to McKinley and Doherty (pp. 309-316, American Journal of Physics, April 1979). I just hope to produce a time-lapse realization of starflight.

I tend to distrust physical calculation done by computer programmers, if they simply lift formulas from a text. Who is Ctein, by the way? I know Niven refers to him often, but I'm afraid the guy missed the boat in this instance...

Trouble in Aquila is a short speculative essay by Clarke. It may be found in The Scientist Speculates, I.J. Good, ed. (New York: Capricorn Books, 1965).

I had originally considered using film in my animations, but videotape is cheaper to edit (and if I make a mistake, I can "make it didn't happen") and UI wasn't giving me any money to do my thesis project.

Cosmos is scheduled for release on PBS sometime this autumn. By the time you get this, a date may well have been announced. I plan to videotape the series...

THE ARMCHAIR STRANGULATOR (when that bandersnatch comes to visit, we put anti-massacres on all the chairs): "The most quintessentially singular", eh? Kid, I can't help thinkin' that this is your rather oblique way of saying, "Bub, you are really strange!"

My choice of videotape is explained three paragraphs up. I did point a vidicon camera at the monitor: there was no trouble with "flutter", but the images lost some definition and took on a bluish cast. Eventually I'll get what I am after...

TAKES A LICKIN' AND KEEPS ON TICKIN' (or You Don't Have To Be Swayzee To Do This Job But It Helps): Oh, but I always number my contributions -- there's a subscript after the horrendously long name (although it is admittedly hard to discern in numbers 4 and 5).

Thank you for adding to my list of Cinematic Awfuls. This has the makings of a nice sideline: every contributor to APA-TECH should give a synopsis of his/her own personal gut-churner!

Ah, another Primary Purpose of Music! That makes at least three! This discussion shows definite promise...

LIKE A BRICK SYNCHROTRON: The two songs I mentioned may get done by late August. I'm not crazy about filksongs as such, but I love parody!

Your question about galactic black holes will require me to do some detailed legwork. Broadly speaking, observations of certain other galaxies indicate core stars moving with orbital speeds too great to maintain closed orbits among the amounts of luminous mass present. Either there's a lot more dust or faint stars than we suspect or there's something dark and heavy in there. Material falling into black holes can also fit in as the power source for quasars, with 30% to 50% of total mass-energy conversion! More details soon (soon as I learn about them...).

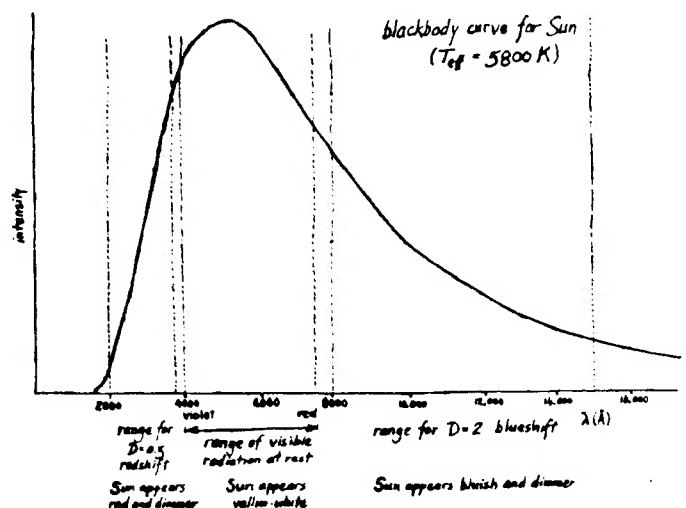
I agree with your remarks about religion (including your suspicion that the discussion will get bigger). I should say that what I mean by "religion" is the philosophical and metaphysical aspect of it, not the manipulative abuse of peoples' faith to scare them so they can jump through someone's hoop.

I find it hard to think of some "magical" way to store enough energy for a one- or two-g interstellar voyage. After all, just the kinetic energy of a ship moving at .87 c is equal to the ship's rest mass.

Apart from the difficulty of finding an Earth-like world (see my Whatcon lecture), the complication on top of that is finding one not in use by indigenous life. The ethics of interstellar colonization and of terraforming are going to be pretty tricky...

WESTECH #2: Darn it, you're right! Science News did stop running their monthly sky maps. I guess I didn't notice since I also get Sky and Telescope, so it wasn't as big a loss to me...

Your remarks about the appearance of a Doppler-shifted star are largely correct, but you need the quantitative detail to see the whole situation. A star behaves much like an "ideal" or blackbody radiator, which has the following characteristic emission curve:



It works out that, for a Doppler factor of D, the apparent temperature becomes $T' = DT$; a blackbody at any relative speed still looks like a blackbody. You then need to figure out how much of its light you can still see. For that, I refer you to the McKinley and Doherty article I mentioned above to Levine.

I heard that the Worldcon ban of flamethrowers goes back to 1969, when Filthy Pierre almost incinerated the hotel in St. Louis with his makeshift flamethrower (good for about 20 feet!). Anyone know more about this?

(Unknown) TALES OF KNOWN SPACE

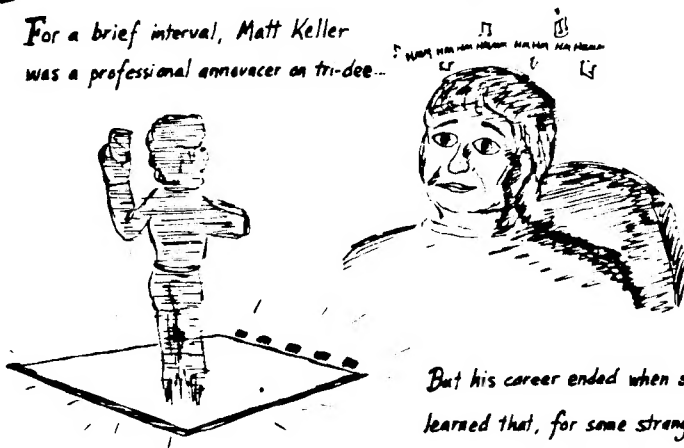
Late at night, when Lucas Garner thought he was alone, he'd dig out his collection of Fifties hits.



When Sinclair monofilament was introduced, it found a vast number of immediate applications.



For a brief interval, Matt Keller was a professional annovacer on tri-dee...



When one puppeteer first conceived the idea of "mobile homes"...

The sudden appearance of a replica of Stonehenge was awe-inspiring, but the duplicated Hoboken just seemed downright SILLY!!



... The Hindmost took the idea quite seriously...



POLES OF ORDER N -

APES AND LANGUAGE: I finally read the article, "Do Apes Use Language?", by Savage-Rumbaugh, Rumbaugh, and Boysen in the January/February issue of *American Scientist*. It seems to me a good objective review of the various language experiments to date. Their main points are that:

- (1) It has not been shown that apes use language referentially. They can associate symbols with physical objects, but have not been successful at using words apart from direct association.
- (2) The "Clever Hans" problem may still be lingering in some experiments. Apes are excellent at picking up on non-verbal cues; they may be watching experimenters' faces during direct contact in order to make choices among alternative symbols.
- (3) Future experiments must examine the total behavior of the ape, not just "interesting" gestures and expressions. Non-verbal behavior and unsuccessful expressions have been largely overlooked so far.
- (4) It still appears that humans alone are able to be abstract in their use of language. We can make comments about the nature of things, express our feelings about situations, and speak of past, future, improbabilities, impossibilities, and nonsense. Apes appear to speak only in the present and of the physically present. This may be a problem of experimental design, however.

SCIENCE VS. RELIGION: The answers I got last time to my question about the difference between science and religion were all right as far as they went. But surely you realize that, if I sit here grinding out all this stuff, I am not going to let you guys off with one-liners.

Part of it was my own fault, due to the way I phrased myself. Let me ask another question: how do science and religion differ in approach to a question? What sort of thinking is involved in each?

The intent of science, in large part due to Galileo, is to remove inquiry into Cause. Science deals with mechanism, with "How?"; religion deals with "Why?". This was pointed out by Rod Smith in his reply. If this is so, it is a puzzle to me why there should be any conflict between the two realms at all.

Kip Williams raised the matter of proof. As a few other people mentioned, a religious person, when asked, "How do you know?", replies that they know because they believe. In science, we say we know because we have experimental proof. I maintain that these attitudes are not as far apart as all that. To demonstrate this, let me set you another exercise: PROVE that the Earth rotates on its own axis and that it revolves about the Sun.

Despite the mechanistic nature of science, there is still a profound form of mysticism present. What are the basic beliefs of science? While you consider that, I will drop a little bomb in here. I think that Albert Einstein was one of the most successful mystics of human history. Consider his thinking processes which led him to the Theories of Relativity. I will offer more on all this later...

I am saving up all the technical stuff about our satellites for an issue of *Pyro* I hope to be able to produce sometime late this year. By then, maybe I'll understand a lot more about how the whole system works... In QS, I'll only be talking about the astronomical aspects of satellites.

If you hit Boston Wednesday or early Thursday, call me at 536-9085 if I don't find you first (I'm crashing a few blocks away from the hotel). I'll try to reach all of you and organize the activities I proposed earlier, if you're interested. I look forward to seeing you there.

Bill-Aytch always signs off with expressions like "Clear Ether!" and "Hot Jets!". When everything chooses to run smoothly at the Earth Station, all our status panels show green lights. So, until next time, I wish you

GREEN BOARDS!

P.S. I just saw *Empire* again. Did anyone spot the GLARING astronomical errors in the closing sequence? (Glaring, he says... It took him two sittings to notice...)

